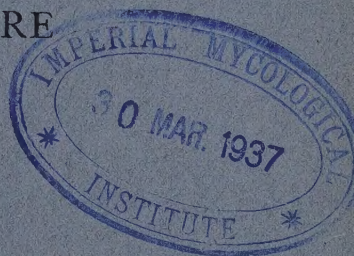


VOLUME XI

No. 11

GOVERNMENT OF NORTHERN IRELAND

MINISTRY OF AGRICULTURE



MONTHLY REPORT

MARCH, 1937



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**GOVERNMENT OF NORTHERN IRELAND.
MINISTRY OF AGRICULTURE.**

Weeds and Agricultural Seeds (Ireland) Act, 1909.

Publication of Tests of Inferior Seeds.

Under the above-mentioned Act the Ministry may publish in such manner as it thinks fit, the results of tests of samples of agricultural seeds taken under the Act, together with the names and addresses of the persons upon whose premises the samples were taken, and of the persons from whom the seeds were stated to have been procured.

In accordance with these powers the Ministry publishes the following particulars regarding seed sampled in the Spring of 1936 :—

County.	Name and Address of trader on whose Premises sample was taken.	Name and address of Wholesaler from whom seed was stated to have been procured.	Description of seed.	Results of Test.	
				Purity. %	Germination. %
Antrim ..	Meban & Knox, Broughshane St., Ballymena.		Danish Cocksfoot	95.0	76.0
Londonderry	Bernard Rogers, Draperstown.		Cabbage (Drumhead)	99.3	8.0
Do. ..	James Smyth & Co. Bishopgate, Londonderry.		Mixture (Perennial and Italian Ryegrass)	98.3	63.0
Tyrone ..	W. J. Hamilton, Bready, Strabane.		Parsnip (Hollow Crown)	97.4	Nil
Do. ..	W. J. Millar, Newtownstewart.		Perennial Ryegrass	96.4	67.0
Londonderry		Holmes, Mullin & Dunn, Ltd., London- derry	Italian Ryegrass	91.7 (Weed Seeds 7.1%)	88.0

The Purity Test determines the percentages *by weight* of seed of the kind named, and of useful, useless, and harmful impurities respectively.

The Germination Test ascertains what proportion *by number* of the "pure seeds" (after impurities have been picked out) are capable of producing good seedlings when sown under the most favourable conditions.

It is obvious that commonsense considerations must influence judgment of purity and germination figures. In *germination* one per cent. by weight is the same thing as one per cent. by number, so that 90 per cent. germination in a sample of 100 seeds means that 90 seeds will grow; but in the case of *purity* there is no connection between per cent. by weight and per cent. by number, since the grains of impurity are so commonly very much smaller than the "pure seed" grains. Thus it happens that one per cent. of, say, chickweed, in a clover sample means no less than *twelve thousand chickweed seeds in every pound of clover*.

Clearly also one per cent. of a troublesome weed matters much more than the same proportion of chaff, or of a less harmful weed; one per cent. of a small seeded weed will mean far more numerous seeds than one per cent. of a large seeded species.

An exceedingly important point, in judging a sample, practically never quoted by seedsmen, is its *speed of growth*. This is reported to anyone who has a sample tested in an official seed testing station. Retailers should ask wholesalers for the "interim germination" figure as well as for the total germination figure which is usually supplied; purchasers should ask their retailers for it. This "interim" germination figure is the percentage of the sample which, on test, produced seedlings in a short period, standardised for the various species, and usually about a quarter of the time allowed for the full germination test. In many cases it matters more than the total germination figure. A turnip grower would obviously get a stronger and better braird from a sample growing 80 per cent. in three days than from a sample growing 96 per cent. in ten days but only 40 per cent. in three days. Slowness in growth is often due to age of the seed.

Purchasers should insist upon *fresh* seed. Old seed is always risky and often disastrous. In this respect vegetable seeds are generally worse than farm seeds. Over-yearred garden seeds should not be accepted; over-yearred farm seeds only if it is quite impracticable to obtain fresh, *and only after re-testing*.

The special attention of small purchasers is directed to the danger of accepting **packets** of vegetable seeds of unstated quality. In a number of cases the Ministry has found unguaranteed packets containing seed entirely dead. It is strongly urged that no packet should be accepted unless the *year of packeting* is printed or stamped upon it.

Statements of the known purity and germination of bulk farm and garden seeds are nowadays universally available *and should always be asked for*. In case of any doubt as to quality of seed, either bought or home saved, or stored over-year, *a sample should always be sent to the Ministry's seed testing station for analysis and test*.

It should be noted that the ordinary purity test gives no information as to the *variety* or "*strain*" of the seed. It is possible in certain cases to determine varietal value by special tests and advice on this important question may be obtained from the Ministry.

WARNING. Seed traders are warned that in future years this list may be given wider publicity (e.g., in the Press or by poster) than heretofore.

MINISTRY OF AGRICULTURE, NORTHERN IRELAND,
BELFAST,

February, 1937.

GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

MONTHLY REPORT

March, 1937

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MINISTRY OF AGRICULTURE

MONTHLY REPORT

MARCH, 1937.

*The year's departing beauty hides,
Of wintry storms the sullen threat;
But in thy sternest frown abides
A look of kindly promise yet.*

The snow storm, which raged during the last few days of February, was but a gentle reminder that the worst of the winter was not yet over compared with the most abnormal weather conditions through which we are now passing.

At the beginning of March the position on the land was indeed far from satisfactory, and it was generally agreed that intensive efforts would be needed to overtake arrears of field work so that sowing and planting on a normal scale could be undertaken in reasonably good time this spring. At the moment of writing, however, the outlook is most discouraging and the March lion is still rampant, although the notorious "Ides" has been passed.

It would be an impossible task to estimate the extent of the storm havoc, and some time must elapse before ground conditions become normal again. Some faint encouragement may be gained in respect of land cultivation in that following the thaw, a period of drying winds, for which March is noted, would bring about a rapid change in soil conditions which have barred the way to further effort in land cultivation for many weeks now.

The special feature of this issue of the Report is to be found on page 9. This takes the form of a review of the grading results of pig carcasses for the Roll and Ham trade in 1936, comparing them with the first year's results obtained in 1935, together with the returns of grading of pigs for the Wiltshire Bacon Trade in respect of 1936.

AGRICULTURAL CONDITIONS.

AGRICULTURAL CONDITIONS AT 1st MARCH, 1937.

Yet another extremely wet month has passed, during which little progress was possible with field work of any description. The month of February opened with promise of drier conditions, but the arrival of more heavy rains was not long delayed, and in general the weather was similar to that of the preceding month, with the exception that temperatures, generally, were lower. Heavy downpours were a frequent occurrence, and on several occasions stormy conditions prevailed. At the close of the month a snow blizzard swept the country. Some frosts were experienced at the beginning of the month, but during several days in the middle of February mild—almost spring-like—temperatures ruled. The cold north-easterly winds during the last few days were followed by snow and frosts. With the ground in a sodden state the snow did not lie long, but the accumulative effect of the excessive rainfall already evident throughout the country was increased to a marked extent, and flooding was much more general than heretofore.

During such adverse weather and soil conditions outdoor work on the farm remained at a standstill and ploughing and other seasonal field work are now in a very backward state for the time of the year. The sowing of spring varieties of wheat was also impracticable, and farmers experienced considerable difficulty in raising potatoes from the pits and lifting root crops in the fields.

Pasture lands have deteriorated further with the excessive rains, and are generally in a water-logged state, only well-drained, high-lying fields remaining comparatively dry and providing a fair amount of sustenance for live stock. The general absence of continued severe frosts this winter was, however, reflected in the fresh green appearance of some fields of grassland, and in sheltered areas a spring of fresh grass was even noticeable at the middle of the month, but the severe weather subsequently cut down the young growth.

Some farmers were able to apply dressings of phosphatic manures to pastures during the favourable intervals, but it was learned that the top dressing of pastures and meadows with farmyard manure has been more general than usual on account of the heavier demands made on the farmers' financial resources by reason of the higher cost of feeding stuffs for live stock. At the same time the tendency for a larger number of farmers to

apply dressings of phosphatic manures in accordance with the Ministry's advice prevails, and reports indicate that the weather alone has prevented many farmers from fulfilling their intentions in this respect. Enquiries for supplies of fertilizers suggest that this work may yet be undertaken during favourable opportunities in the current month.

Although supplies of fodder are generally sufficient for requirements on most farms the stocks of roots are stated to be already showing signs of depletion. On the whole the position in regard to home-grown feeding-stuffs is rather less satisfactory than usual, but there is no immediate danger of any appreciable general shortage. Quotations for good quality hay have remained at high levels, and home-grown oats have risen further in price on the month. Other purchased feeding-stuffs, such as meals and concentrates, are less plentiful and dear. In this connection it may be mentioned that supplies of barley meal are very difficult to obtain, whilst concentrated foods rich in protein have advanced in price in sympathy with the high costs of feeding meals.

The weather has been most trying on live stock, and as the high prices of feeding stuffs have forced many farmers to curtail the ration many outliers are in a backward condition. On the whole, however, cattle and sheep have come through the month reasonably well, and the bill of health is clean. The relatively higher prices obtainable for well-conditioned stores, and the dearth of feeding-stuffs, continued to influence many farmers in reducing the number of stall-fed animals, and it was reported that, during last month, only outlying cattle in forward condition were being given extra food, in the form of meals and concentrates, on the grass in order to maintain them in readiness for disposal. It was also reported that a larger proportion of smaller cattle than usual were included among the stall-feds.

THE CROPS.

WHEAT.—It is estimated that as a result of the adverse weather and unsuitable soil conditions during the past winter months the area sown with winter varieties of wheat has decreased on the year. It was not possible to make a start with the sowing of spring varieties during February, and unless the weather brings about a rapid improvement in soil conditions it is unlikely that the total area under the wheat crop will be even as large as a year ago.

Only a very small proportion of the 1936 wheat crop now remains unthreshed. Small quantities of good quality grain were sold last month at prices ranging from 8/- to 10/- per cwt.

OATS.—Further progress was made with the threshing of oats, and only about one-fifth of the entire crop now remains unthreshed. The grain is generally of medium quality, but the straw is mostly inferior.

Larger supplies of white oats were marketed last month than in January, and average prices recorded a further advance on the month of 6d. at 6/9 $\frac{1}{4}$ d. per cwt.

With tillage operations in a very backward state, it is a very open question as to how the area to be sown under oats this year will compare with last year, but in view of the higher prices of feeding-stuffs farmers will be inclined to increase the area under oats. Here again, however, the weather of the early spring months will prove the deciding factor.

BARLEY.—Practically the whole of this crop has been threshed, and on the general run the results have been fairly satisfactory. Home-grown supplies of barley are particularly valuable this season, as both barley and barley meal are now very scarce and dear. In the circumstances it seems likely that many farmers will sow a larger area of barley than was sown last year, providing weather and soil conditions improve soon.

FLAX.—It is estimated that about one-fifth of the entire crop remains unscutched. The yields have varied to a considerable extent, and were generally smaller in bulk and lower in quality than a year ago, but this was to be expected as a result of a most unfavourable season.

Supplies of flax marketed during February were slightly smaller than for the preceding month, and prices eased during the month and averaged 9/9 $\frac{1}{2}$ d. per stone as against 9/10 $\frac{1}{4}$ d. per stone in January. The average price for February, 1936, was 8/10d. per stone.

With ploughing considerably in arrears it is impossible to gauge the extent of the area that will be sown under flax this year, and in view of the dilatoriness of farmers in making arrangements for purchasing seed it would seem that they are waiting to see if ground conditions improve to complete the preparation of the ground before they engage in any commitments. It is considered that, granting conditions are favourable, the area under flax will not show any material change from last season.

POTATOES.—Unsatisfactory reports continue to be received as to the keeping qualities of the white varieties in general, and of some stocks of the Arran Victory variety, but it is understood that Kerr's Pink tubers are keeping almost as well as a year ago. The adverse weather of last month continued to hamper the lifting of potatoes from the pits, but with trade remaining quiet throughout February shippers' requirements and the local demand were satisfied. There has been a lull in the potato trade for some weeks now, and partly on account of the state of uncertainty existing as to the future trend of prices, and partly as the result of the difficulty of raising potatoes from the pits in heavy soil areas, there yet remains a considerable portion of the entire

crop on farms. The quality of the marketable produce is in the main up to standard, and now that there are better chances of the weather and soil conditions improving, farmers may possibly get increased opportunities for disposing of their stocks to advantage.

Supplies of potatoes marketed for local consumption during last month were smaller than in January, and prices which eased during February averaged $3/11\frac{3}{4}$ d. per cwt. as against $4/2$ d. per cwt. for the previous month. The weekly average price at the beginning of March, however, had an upward trend at $3/11\frac{1}{2}$ d. per cwt.

Shipments of potatoes to Great Britain last month continued on a lighter scale than a year ago, as the following figures illustrate:—

1937			1936		
Week ending.		Tons	Week ending.		Tons
February, 6th	...	4,939	February, 8th	...	5,626
" 13th	...	4,701	" 15th	...	4,285
" 20th	...	5,023	" 22nd	...	6,820
" 27th	...	5,006	" 29th	...	6,929
March 6th	...	4,932	March, 7th	...	5,847

Shippers' prices had a tendency to ease during last month, but at the beginning of March a firmer tendency was noticeable. The following were the prices for the week ended 7th March:—

	Bagged.	Loose.
Up-to-Date (Red Soil)	£3-15-0 to £4-0-0	£3-5-0 to £3-15-0
Up-to-Date (Grey Soil)	£3-15-0 to £4-0-0	£3-5-0 to £3-10-0
Arran Consul	£3-15-0 to £4-0-0	£3-5-0 to £3-10-0
Arran Victory	£3-10-0 to £4-2-6	£3-0-0 to £3-17-6
Arran Banner	£3-5-0 to £3-15-0	£3-5-0 to £3-7-6
Kerr's Pink	£3-10-0 to £4-5-0	£3-5-0 to £4-0-0

TURNIPS.—As a general rule this crop is not keeping as well as last year, especially in the rich soil areas where Crown Rot and "Raen" diseases have attacked the roots. The rather disappointing crops of turnips are being used sparingly for stock feeding, but even with the exercise of the strictest economy in feeding, the supplies on a fair number of farms may run short before the season ends.

MANGELS.—The roots are keeping well and are now being extensively used for feeding to stock on account of the lighter supplies of turnips that are available this year.

HAY.—Although the supplies of hay on farms are smaller than usual at this time of the year they are generally sufficient to last out the season. The quality generally is, however, much below the usual standard and the higher prices ruling this year are indicative of the shortage of good-quality fodder.

Increased supplies were marketed last month as compared with January, and average prices improved on the month by 3/2d. to 70/10d. per ton for upland hay, and by 4/7d. to 49/7d. per ton for meadow hay.

GRASS SEEDS.—Although marketing has practically ended, it is understood that some farmers are still holding up supplies in the hope of a belated increased demand resulting in higher prices being offered, especially for Italian rye-grass seed, which has been selling at relatively low prices this season. The average prices per cwt. ruling for the dwindling supplies marketed last month were as follow :—Italian 10/6½d., Perennial 15/9d. and Mixed 12/4½d.

LIVE STOCK.

CATTLE.—Outlying stores suffered from the severe weather of last month and are in a backward condition, especially where hand-feeding was limited. The health of the herds, however, was normal.

Trade for the smaller supplies of good quality store cattle at fairs was steady up to the close of last month when a keener demand resulted in a further advance in prices.

Dairy cattle are in a fair condition and in normal health. Calving, which was more general last month, progressed without any unusual incidents. The milk yield continued to be depressed. This was due to the inclement weather, the shortage of good quality hay and roots, and the higher prices of purchased concentrates.

Smaller turnouts of dairy stock at fairs held during February met a quieter trade than of late, and prices were easier.

SHEEP.—The rough weather conditions have left their mark on the flocks and the general condition of all sheep is poor. In regard to health, however, there have not been many complaints although "foot rot" and liver fluke diseases appear to have given some trouble. It was also reported that a fair number of deaths occurred among in-lamb ewes during the severe weather, and that some lambs also were lost. Lambing has been slower than usual, and some ewes have suffered from a form of paralysis. It is, however, expected that the position of this year's crop will have materially improved by the end of March unless more severe weather supervenes.

Small supplies of sheep were offered at fairs last month, but a good demand ruled for fat animals for local requirements, whilst breeding sheep also sold well at late rates.

PIGS.—A slower trade ruled for the larger offerings of young pigs at fairs, but prices remained fairly steady throughout the month. Brood sows were in fairly good supply, and in moderate request at easier prices ranging from £6 to £10 per head.

HORSES.—A strong trade continued for suitable farm horses during last month. The demand for good quality farm and draught horses was greater than the supply, and prices advanced. First quality farm horses made from £40 to £60, whilst second-class animals also sold readily at from £25 to £35 each. Some foals were quoted at from £16 to £20 each, and six-quarter-olds at from £25 to £30 each.

MILK.—The milk yield was lower on the month, and the decline was attributed to the severe weather conditions and the lower quality of fodder and roots available at farms, together with the dearness of purchased foodstuffs. In many instances the large numbers of cows which calved during February served to counteract the effects of the weather to some extent. Creameries paid from 4½d. to 5¾d. per gallon for milk delivered, the separated milk being returned to the farmer. The average price paid for milk produced in Northern Ireland and delivered to creameries for manufacturing purposes was 5.29d. per gallon for the month of January, 1937, and the Ministry has made equalisation payment at 0.71d. per gallon in order to bring the average price in respect of this month to 6d. per gallon as provided by the Milk and Milk Products Act (Northern Ireland), 1934.

It should be noted that under the Regulations creameries are required to distribute the equalisation payments in accordance with the butter-fat contents of the milk received from each supplier. Farmers should, therefore, bear in mind that the actual payments made to them, being calculated on a butter-fat basis, may be at a rate per gallon which may vary below or above this average figure.

THE COST OF LIVING INDEX FIGURE.

The cost of living index figure at 1st February, 1937, was 51, or the same as that for the previous month. At 1st February, 1936, the figure was 47.

THE MARKETS DURING FEBRUARY.

Supplies of the principal vegetables marketed during February were smaller than in the preceding month, and except in the case of Carrots and Parsnips, which were appreciably dearer on the month at $4/9\frac{1}{4}$ d. and $4/8$ d. per cwt., respectively, price movements were negligible. Cabbage at $1/5$ d. per dozen, Savoy at $1/3\frac{3}{4}$ d. per dozen, Cauliflowers at $2/4\frac{1}{2}$ d. per dozen, Leeks at $5\frac{1}{2}$ d. per bunch, Parsley at $4\frac{1}{2}$ d. per bunch, and Garden Turnips at $1/9$ d. per cwt. were selling at last month's prices.

Farmers' Butter was marketed in unchanged quantities, and although Print Butter sold at former levels at $1/2\frac{1}{4}$ d. per lb., the bulk of supplies consisting of Lump Butter was $\frac{1}{4}$ d. dearer at $11\frac{1}{2}$ d. per lb. Considerably increased supplies of Hen Eggs were marketed last month, and Duck Eggs were also more plentiful than in January. Hen Eggs were $\frac{3}{4}$ d. dearer on the month at $8\frac{3}{4}$ d. per lb., but Duck Eggs decreased by $1/1\frac{1}{2}$ d. to $11/6$ d. per 120. There were increases in the number of Hens marketed during the month, but Chickens and Ducks were slightly less plentiful. Hens were $\frac{1}{2}$ d. dearer at $1/8$ d. each, Chickens $\frac{3}{4}$ d. dearer at $2/3\frac{3}{4}$ d. each, and Ducks 2d. dearer at $2/1$ d. each.

Only small lots of Wool were marketed in February, and Long Unwashed Wool was $1\frac{1}{4}$ d. dearer at 10d. per lb. and Mountain Unwashed 1d. dearer at $8\frac{3}{4}$ d. per lb.

MARKETING OF DEAD PIGS.

GRADING RESULTS IN 1935 AND 1936.

In the monthly Reports for March and April, 1936, the results of the grading of dead pigs carried out in 1935 were reviewed, and as the complete figures for 1936 are now available a comparison of the results over the two years will no doubt appeal to all interested in the grading of dead pigs.

It will be recalled that up to the end of November, 1934, the sale of pig carcasses between producers and roll and ham curers in Northern Ireland took place solely on a weight basis. In December, 1934, the Ministry, with the concurrence of the Bacon Marketing Board and the Pigs Marketing Board, introduced compulsory grading, and prescribed definite grades based on the depth of fat at the shoulder. The grading is carried out at the curing factories by Veterinary Officers of the Ministry, and the cost of the service is borne by the Pigs Marketing Board and the curers.

Particulars of the grade standards in force in 1935 and 1936 for the different weight classes of roll and ham pig carcasses were as follows :—

Weight Classes.	Minimum thickness of back fat at the shoulder.		
	Grade A.	Grade B.	Grade C.
I. c.1.1.14 to c.1.2.14	From 1½" to 1¾"	From 2" to 2½"	From 2½" to 2¾"
II. c.1.2.15 to c.1.3.14	1¾" to 2"	2½" to 2¾"	2¾" to 2¾"
III. c.1.3.15 to c.2.0.0	1½" to 2½"	2½" to 2½"	2½" to 2½"
IV. c.2.0.1 to c.2.0.14	1½" to 2½"	2½" to 2½"	2½" to 2½"

Pig carcasses between c.1.1.14 and c.2.0.14 under Grade A measurements were graded U.L., while those over Grade C measurements were graded U.F.

Pig carcasses in the following categories were classified as "Ungraded" :—

- (1) Carcasses weighing less than c.1.1.14 or more than c.2.0.14;
- (2) Wholly or mainly black pigs, boars, rigs or stags, and sucked sows.

The data contained in the tables which follow has been obtained from the purchase and grading statements which curers are required to furnish weekly to the Ministry. These statements give full particulars of the weight, grade and value of every pig carcass purchased from producers. In 1935 the number of pig carcasses accounted for was about 440,000, while in 1936 the number was almost 521,000.

SEASONALITY OF MARKETING.

The marketing of pig carcasses has always been heaviest in the autumn, and this feature is likely to persist to some degree in the future owing to the fact that losses from pigs reared during the summer months are less than in the case of pigs farrowed in the autumn and winter, and also that producers are able to obtain abundant supplies of separated milk for feeding purposes from the creameries during April-September, the period in which creameries receive two-thirds of their yearly milk supply. The following table shows the number of carcasses marketed each month, expressed as a percentage of the total for the year, in each of the years 1935 and 1936, together with average figures for the five-year period 1930-34 :—

Month.	1935	1936	1930-34
	%	%	%
January	8.1	8.1	8.0
February	6.8	6.9	6.5
March	6.1	7.6	7.0
April	7.5	8.0	7.4
	28.5	30.6	28.9
May	8.4	8.0	7.3
June	8.5	8.3	7.9
July	6.7	7.5	6.5
August	8.6	7.0	9.5
	32.2	30.8	31.2
September	9.7	9.2	10.0
October	12.2	10.9	11.1
November	9.1	9.8	11.2
December	8.3	8.7	7.6
	39.3	38.6	39.9
Total	100.0	100.0	100.0

It will be seen that the marketings month by month in 1936 were much more regular than in 1935.

PIG CARCASSES BY WEIGHT CLASSES.

Since the highest prices in both years were obtainable for pig carcasses in Weight Classes I and II., i.e. ranging from c.1.1.14 to c.1.3.14, it is not surprising that the majority of the carcasses fell into these weight classes. In 1935 the percentage of carcasses each month between c.1.1.14 and c.1.3.14 was fairly steady at about 80, being highest in July at 83.3, and lowest in December at 78.8. In 1936 the position was almost identical, the percentage being greatest in July at 83.7, and lowest in January at 78.7, with an average of 81.4 over the year. The following table shows, by percentages, the numbers of all pigs in each weight class for each month in 1935 and 1936, together with the numbers under c.1.1.14 and over c.2.0.14 :—

Month	1935						1936					
	Wt. Class I	Wt. Class II	Wt. Class III	Wt. Class IV	Under	Over	Wt. Class I	Wt. Class II	Wt. Class III	Wt. Class IV	Under	Over
	c.1.1.14 to c.1.2.14	c.1.2.15 to c.1.3.14	c.1.3.15 to c.2.0.0	c.2.0.1 to c.2.0.14	c.1.1.14	c.2.0.14	c.1.1.14 to c.1.2.14	c.1.2.15 to c.1.3.14	c.1.3.15 to c.2.0.0	c.2.0.1 to c.2.0.14	c.1.1.14	c.2.0.14
	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	39.3	41.6	6.7	1.7	9.8	.9	35.0	43.7	8.6	2.3	9.2	1.2
Feb.	41.2	40.4	5.8	1.4	9.9	1.3	37.3	42.2	7.3	1.9	10.3	1.0
Mar.	41.4	39.6	5.8	1.4	11.0	.8	39.9	40.7	5.7	1.3	11.7	.7
Apl.	42.8	38.3	5.2	1.3	11.4	1.0	40.7	40.7	5.2	1.2	11.6	.6
May	44.3	37.7	4.5	1.1	11.5	.9	41.9	40.3	5.1	1.0	11.5	.2
June	43.8	37.6	4.2	.9	13.1	.4	42.0	41.2	4.9	.9	10.7	.3
July	43.5	39.8	5.5	1.2	9.5	.5	40.9	42.8	5.6	1.2	9.2	.3
Aug.	40.0	42.0	6.8	2.6	7.6	1.0	41.3	41.8	5.8	1.3	9.4	.4
Sept.	37.7	43.8	8.2	2.3	7.3	.7	38.1	44.4	6.9	1.5	8.7	.4
Oct.	34.5	46.3	8.6	2.2	7.6	.8	34.3	46.6	8.4	2.1	8.0	.6
Nov.	33.4	46.3	9.4	2.5	7.2	1.2	31.6	48.3	9.9	2.6	6.8	.8
Dec.	35.2	43.6	8.8	2.6	8.7	1.1	34.5	46.1	8.4	2.0	8.2	.8
Avg. for Year	39.4	41.7	6.8	1.8	9.4	.9	38.1	43.3	6.8	1.6	9.6	.6

In the case of Weight Class I it will be observed that the figures for both years correspond very closely, rising from January until May in 1935 and June in 1936, and then declining until November. In Weight Class II the trend of the figures in each year was in the opposite direction, falling from January until about the middle of the year and then rising until November. The figures for Weight Classes III and IV in each of the two years also reveal a corresponding fall from January to June, followed by a rise until November.

Taking the four Weight Classes together the figures clearly show that carcase weight is lightest in the middle of the year, and heaviest in the autumn.

Pig carcasses under c.1.1.14 represented slightly less than 10 per cent. of the total, and the proportion marketed was greater in the first half of the year than in the second half. The number of carcasses over c.2.0.14 was less than 1 per cent. of the total, and the proportion was smallest in the summer months.

In the following table the average weight and nett value of all carcasses marketed each month in 1935 and 1936 are given, and it will be seen that the average weights each month agree very closely and that the heaviest weight each year was in respect of the month of November.

Month	Average weight of carcase.			Average value of carcase (less levies paid to Pigs Marketing Board).			
	1935			1936			1936
	c.	q.	lb.	c.	q.	lb.	£ s. d.
January	1	2	15	1	2	16	4 15 5
February	1	2	16	1	2	15	4 17 2
March	1	2	13	1	2	13	4 17 7
April	1	2	12	1	2	12	4 15 0
May	1	2	13	1	2	12	4 12 6
June	1	2	9	1	2	12	4 11 6
July	1	2	13	1	2	13	4 13 0
August	1	2	14	1	2	13	4 11 2
September	1	2	15	1	2	15	4 9 4
October	1	2	17	1	2	17	4 9 0
November	1	2	19	1	2	20	4 9 1
December	1	2	17	1	2	17	4 6 7
Average for year	1	2	15	1	2	15	4 11 10
							4 12 2

GRADING RESULTS.

The importance of grading is brought home to producers by means of a system of graduated prices, premiums being paid in the case of Grade A pigs and deductions being made in the case of Grade C pigs. For example, the statutory prices per dead cwt. for a pig carcase weighing c.1.2.14 in December, 1936, were as follows:—

Grade A—63s. 8d. Grade B—60s. 8d. Grade C—57s. 8d.

It was anticipated that producers, profiting by their experience of grading in 1935, would endeavour to improve carcase grading in 1936, and it is gratifying to note that this expectation has been borne out by the results. In the following table are given the percentages of carcasses falling into the various grades in each month of 1935 and 1936:—

Mth.	1935						1936					
	A	B	C	U.L.	U.F.	Un-graded	A	B	C	U.L.	U.F.	Un-graded
	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	33.2	36.2	15.4	.2	2.3	12.7	33.8	38.2	14.1	.0	2.5	11.4
Feb.	36.5	34.8	14.1	.1	1.7	12.8	34.5	36.0	14.2	.1	2.7	12.5
Mar.	34.5	34.7	14.2	.0	2.9	13.7	35.7	33.5	14.2	.1	3.0	13.5
April	33.8	34.5	14.2	.1	3.0	14.4	34.9	34.8	14.4	—	2.9	13.0
May	32.3	34.8	14.8	.1	3.5	14.5	33.6	34.8	15.4	—	3.6	12.6
June	29.9	35.2	15.3	.1	3.5	16.0	33.2	34.6	15.9	—	4.3	12.0
July	31.2	35.5	16.0	.0	4.5	12.8	34.5	34.6	16.0	—	4.4	10.5
Aug.	31.4	35.9	16.9	.1	4.4	11.3	35.1	34.7	15.9	—	3.7	10.6
Sept.	36.2	35.5	14.9	.0	3.6	9.8	34.9	34.8	16.4	—	4.0	9.9
Oct.	38.6	35.4	13.2	.0	2.7	10.1	37.8	35.6	14.2	—	3.0	9.4
Nov.	37.2	36.0	14.2	.0	2.6	10.0	39.6	36.4	12.9	—	2.7	8.4
Dec.	34.2	36.8	15.0	.1	2.8	11.1	39.8	35.4	12.7	—	2.3	9.8
Avg. for Year	34.3	35.5	14.8	.1	3.1	12.2	35.6	35.3	14.7	.0	3.3	11.1

In the case of Grade A carcasses it will be observed that the proportion in each year was lowest in June and highest in October (1935) and December (1936). The maximum variation in 1936 was 6.6 as compared with 8.7 in 1935.

The Grade B figures in each year moved within fairly narrow limits, falling in the early months and rising in the latter part of the year. Taking Grades A and B together, the percentage in each year was lowest in June and greatest in October (1935) and November (1936). In 1935 the combined figures for Grade A and B carcasses averaged 69.8% as against 70.9% in 1936, indicating that producers were steadily improving carcass quality.

The Grade C figures show a more or less steady rise and fall throughout the year, being lowest in October (1935) and December (1936).

The number of U.L. carcasses (under Grade A measurements) was insignificant in each year, representing on the average less than .1 per cent. of the total. The proportion of U.F. carcasses (over Grade C measurements) was practically the same in both years, reaching a maximum in July.

The "Ungraded" carcasses consisted mainly of underweights, and it will be noted that in each year the proportion declined in the autumn.

GRADING RESULTS BY WEIGHT CLASSES.

The grading results in the case of pig carcasses in the different weight classes reveal some interesting features, and indicate that the general improvement already noted was not confined to carcasses in any particular weight class.

WEIGHT CLASS I.

c.1.1.14 to c.1.2.14.

Mth.	1935 (39.4% of total carcasses marketed)						1936 (38.1% of total carcasses marketed)					
	A	B	C	U.L.	U.F.	Un-graded	A	B	C	U.L.	U.F.	Un-graded
	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	45.37	37.76	13.35	.28	1.05	2.19	46.08	39.26	11.88	.02	1.05	1.71
Feb.	48.95	36.28	11.96	.08	.77	1.96	47.79	36.58	12.80	.08	1.30	1.45
Mar.	46.47	37.36	12.14	.09	1.40	2.54	48.93	35.19	12.83	.08	1.74	1.23
April	45.79	37.69	12.68	.06	1.61	2.17	46.08	37.65	13.37	.01	1.80	1.09
May	43.36	38.16	14.29	.08	1.84	2.27	45.47	36.97	14.31	.04	2.21	1.00
June	42.02	39.75	13.86	.10	2.07	2.20	44.56	37.05	14.80	.01	2.50	1.08
July	41.94	36.89	14.94	.06	2.56	3.61	46.72	35.10	14.41	.02	2.62	1.13
Aug.	43.11	36.64	14.68	.10	2.30	3.17	47.92	35.44	13.61	.03	2.06	.94
Sept.	48.67	34.76	12.58	.03	1.65	2.31	47.83	34.79	14.24	.05	1.99	1.10
Oct.	51.67	33.26	11.46	.05	1.24	2.32	50.96	34.89	11.82	.06	1.28	.99
Nov.	50.30	34.35	11.75	.05	1.03	2.52	53.73	34.21	9.84	.08	1.10	1.04
Dec.	45.97	37.72	13.06	.09	1.20	1.96	54.60	33.40	9.86	.06	.96	1.12
Avg. for year	46.14	36.64	13.07	.09	1.58	2.48	48.39	35.88	12.81	.04	1.72	1.16

It will be observed that in each year the percentage of Grade A carcasses was lowest in the summer and highest in the autumn. The average figure for 1936 shows an appreciable increase on the corresponding figure for 1935.

While the Grade B figures for 1935 reveal a definite trend from month to month the figures for 1936 do not show the same regularity of movement, though in both cases the tendency to increase in the first half of the year and then fall to a minimum in the autumn is apparent. It will also be observed that the Grade B figures fluctuated within smaller limits than in the case of Grade A. Taking Grade A and Grade B results together, the figures for 1936 show a noticeable improvement on those for 1935, the average rising from 82.78% to 84.27%.

Grade C carcasses represented approximately one-eighth of the number marketed in this weight class each year, the proportion being highest in the summer and lowest in the autumn.

The percentage of U.L., U.F. and Ungraded carcasses was not significant in either year, the total declining from 4.15% in 1935 to 2.92% in 1936.

WEIGHT CLASS II.

c.1.2.15 to c.1.3.14.

Mth.	1935 (41.7% of total carcasses marketed)						1936 (43.3% of total carcasses marketed)					
	A	B	C	U.L.	U.F.	Un-graded	A	B	C	U.L.	U.F.	Un-graded
	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	31.33	41.57	20.95	.17	3.93	2.05	32.93	42.91	19.00	.02	4.03	1.11
Feb.	35.13	40.41	19.65	.04	3.05	1.72	33.51	42.15	19.00	.03	4.30	1.01
Mar.	33.47	39.70	20.16	—	4.98	1.69	34.35	39.89	19.56	.07	4.99	1.14
Apl.	32.81	39.84	20.22	.04	5.01	2.08	34.62	40.30	19.55	.01	4.73	.79
May	30.90	40.82	19.90	.04	6.22	2.12	32.02	40.38	20.73	.03	5.92	.92
June	27.92	41.07	22.08	.04	5.87	3.02	31.14	39.43	21.34	.03	7.07	.99
July	28.36	41.24	20.50	.03	7.36	2.51	31.40	39.90	20.81	.01	6.82	1.06
Aug.	28.83	39.75	21.70	.02	6.99	2.71	31.89	39.60	21.66	.01	5.93	.91
Sept.	34.45	39.57	19.01	.01	5.53	1.43	32.38	39.35	21.22	.01	6.17	.87
Oct.	37.53	40.21	16.67	.02	4.13	1.44	36.16	39.90	18.43	.02	4.79	.70
Nov.	35.89	40.47	18.50	.01	3.86	1.27	38.19	40.23	16.97	.03	3.82	.76
Dec.	33.27	41.28	19.71	.04	4.58	1.12	38.21	40.53	17.04	.04	3.50	.68
Avg. for year	32.88	40.47	19.65	.04	5.05	1.88	33.90	40.38	19.61	.03	5.17	.91

It will be noted that the proportion of Grade A carcasses was lowest in June and highest in the autumn. The Grade B figures in each year were more or less constant at about 40%, but the Grade C and U.F. figures tended to be highest in the summer and lowest in the autumn.

WEIGHT CLASS III.

c.1.3.15 to c.2.0.0.

Mth.	1935 (6.8% of total carcasses marketed)						1936 (6.8% of total carcasses marketed)					
	A	B	C	U.L.	U.F.	Un-graded	A	B	C	U.L.	U.F.	Un-graded
	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	28.87	47.87	17.05	.17	2.91	3.13	30.84	50.64	14.55	—	2.90	1.07
Feb.	30.93	48.25	16.92	—	2.46	1.43	29.76	49.27	16.05	.04	3.61	1.27
Mar.	29.54	47.94	16.60	—	3.86	2.06	31.78	45.77	16.23	—	4.74	1.48
Apl.	27.94	46.86	15.95	.17	6.17	2.91	31.83	46.66	15.92	—	4.27	1.32
May	26.66	44.50	18.69	.06	6.95	3.14	27.58	49.10	16.30	.05	5.14	1.83
June	23.36	47.36	18.70	—	7.24	3.34	28.65	47.64	16.38	—	5.94	1.39
July	25.31	45.00	19.88	—	6.36	3.45	29.93	45.70	17.75	—	5.70	.92
Aug.	24.13	44.37	21.79	.04	6.20	3.47	28.81	48.37	17.02	—	5.33	.47
Sept.	27.95	46.77	17.12	—	5.46	2.70	27.28	47.38	19.06	—	5.22	1.06
Oct.	33.04	47.60	14.49	—	3.46	1.41	33.94	46.78	14.90	.04	3.42	.92
Nov.	34.14	46.46	14.42	—	3.41	1.57	34.58	48.45	12.36	.06	3.62	.93
Dec.	32.34	47.43	16.18	.03	3.12	.90	33.94	47.55	14.03	.08	3.45	.95
Avg. for year	30.08	45.77	17.20	.03	4.61	2.31	30.74	47.78	15.88	.02	4.45	1.13

In both years the proportion of Grade A carcasses in this weight class was highest in November. The Grade C and U.F. figures, though moving somewhat irregularly, reveal an upward trend in the summer and downward in the autumn.

WEIGHT CLASS IV.

c.2.0.1 to c.2.0.14.

Mth.	1935 (1.8% of total carcasses marketed)						1936 (1.6% of total carcasses marketed)					
	A	B	C	U.L.	U.F.	Un-graded	A	B	C	U.L.	U.F.	Un-graded
	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	21.43	53.23	15.82	—	4.08	5.44	25.55	55.45	13.81	—	3.01	2.18
Feb.	23.56	52.20	15.94	—	3.23	5.07	19.64	56.55	14.43	.15	5.06	4.17
Mar.	24.40	50.66	15.12	—	6.10	3.72	25.86	45.26	16.16	.20	5.86	6.66
Apl.	20.19	55.29	14.19	.96	2.88	6.49	24.80	53.20	14.20	—	4.80	3.00
May	20.30	51.63	12.78	—	6.27	9.02	22.10	51.54	16.62	.24	5.70	3.80
June	21.75	50.56	14.97	—	5.66	7.06	24.07	50.86	15.05	—	7.01	3.01
July	20.33	49.45	19.23	—	6.32	4.67	20.45	51.65	19.22	.21	6.82	1.65
Aug.	14.23	57.73	18.97	.10	6.49	2.48	23.26	50.65	18.91	—	4.57	2.61
Sept.	19.75	53.78	18.70	—	5.36	2.41	23.96	50.88	18.17	.13	6.06	.80
Oct.	25.02	55.15	13.77	—	4.07	1.99	25.17	53.83	15.13	.43	3.83	1.61
Nov.	24.87	55.21	13.04	—	4.55	2.33	28.43	50.23	15.16	.07	4.15	1.96
Dec.	24.47	54.22	14.56	.11	4.85	1.79	23.55	56.34	13.98	—	3.76	2.37
Avg. for year	21.76	54.04	15.60	.08	4.95	3.57	23.90	52.21	15.90	.12	5.05	2.82

Although in each year this weight class accounted for less than 2% of the total number of carcasses marketed, the results are generally in harmony with those in the other three weight classes.

SUMMARY OF GRADING RESULTS BY WEIGHT CLASSES.

To facilitate comparison the average grading results in respect of carcasses in each weight class during the two years under review are summarised in the following table :—

Weight Class.	1935						1936					
	A	B	C	U.L.	U.F.	Un-graded	A	B	C	U.L.	U.F.	Un-graded
	%	%	%	%	%	%	%	%	%	%	%	%
I c.1.1.14 to c.1.2.14	46.14	36.64	13.07	.09	1.58	2.48	48.39	35.88	12.81	.04	1.72	1.16
II c.1.2.15 to c.1.3.14	32.88	40.47	19.68	.04	5.05	1.88	33.90	40.38	19.61	.03	5.17	.91
III c.1.3.15 to c.2.0.0	30.08	45.77	17.20	.03	4.61	2.31	30.74	47.78	15.88	.02	4.45	1.13
IV c.2.0.1 to c.2.0.14	21.76	54.04	15.60	.08	4.95	3.57	23.90	52.21	15.90	.12	5.05	2.82

These results show that the percentage of Grade A carcasses is greatest in Weight Class I and smallest in Weight Class IV, while the position is reversed in the case of the Grade B results. It will also be noted that the Grade C and U.F. figures are highest in the case of Weight Class II.

AVERAGE WEIGHTS OF GRADE A, GRADE B and GRADE C CARCASSES IN EACH WEIGHT CLASS.

In the following table are given the average weights of carcasses falling into each of the three prescribed grades in the years 1935 and 1936 :—

Weight Class.	1935			1936		
	Grade A.	Grade B.	Grade C.	Grade A.	Grade B.	Grade C.
	c. q. lb.	c. q. lb.	c. q. lb.	c. q. lb.	c. q. lb.	c. q. lb.
I c.1.1.14 to c.1.2.14	1 2 0½	1 2 3½	1 2 4½	1 2 1	1 2 3½	1 2 5
II c.1.2.15 to c.1.3.14	1 2 25½	1 2 27	1 3 0½	1 2 25	1 2 27	1 3 0½
III c.1.3.15 to c.2.0.0	1 3 20	1 3 20	1 3 20¾	1 3 20	1 3 20½	1 3 21
IV c.2.0.1 to c.2.0.14	2 0 6	2 0 6	2 0 7	2 0 6	2 0 6½	2 0 6½

The figures for Weight Classes I and II suggest that within each weight range the grade of a carcass is directly related to its weight, the lighter pigs in each weight range giving the best results. The results in Weight Classes III and IV are not so marked, but this may be explained by the fact that the

weight range in each case is only 14 lb. and the total number of pigs marketed in both classes represented only 8.6% in 1935 and 8.4% in 1936.

CONCLUSIONS.

From an examination of the results of the grading of roll and ham pig carcasses on the basis of shoulder fat measurement during the past two years it would appear that the following conclusions may justifiably be drawn :—

1. The average weight of carcasses is lightest in the summer and heaviest in the autumn.
2. The quality of carcasses, judged by shoulder fat thickness, is poorest in summer and best in the autumn.
3. In each weight class the average weight of Grade A carcasses is less than that of Grade B or Grade C carcasses.

Pigs which have grown slowly in the early stages tend to lay down an excessive amount of back fat, particularly at the crest of the shoulder, during the last part of the fattening period. It is possible that the variations in weights and grading results as between summer and autumn may be attributed to the fact that pigs reared during the winter months, when weather conditions are unfavourable, put on weight more slowly than pigs reared during the summer when climatic conditions are better and plentiful supplies of separated milk are available.

GRADING OF PIGS AT WILTSHIRE BACON FACTORIES IN 1936.

The establishment of Wiltshire bacon factories in Northern Ireland is only of recent date, and is a direct result of the rapid expansion which has taken place in pig production since the introduction of the Pigs Marketing Scheme. The first Wiltshire factory commenced operations in the spring of 1935, followed by another in the summer of the same year. During 1935 the Wiltshire factories obtained their supplies of live pigs of Large White York type partly on contract from the Pigs Marketing Board (Northern Ireland) and partly by means of direct contracts with producers, the contracts being registered with the Board. In the initial stages grading was carried out at the factories by Veterinary Inspectors of the Ministry in accordance with a grading scheme agreed upon between the curers and the Board.

In December, 1935, however, the Ministry made the Pigs Marketing (Grading) (Northern Ireland) Order, 1935, which provided a statutory system of grading as from the 1st January, 1936, in the case of pigs for curing into bacon of the Wiltshire type. The factories have continued to draw their supplies of live pigs on contract from the Pigs Marketing Board and also from

producers on direct contract. In the case of direct contracts between producers and curers the Board is a third party in order to safeguard the interests of the producer. These contracts have, since the 1st January, 1936, had to be registered by the Pig Industry Council.

Full particulars of the system of grading in operation in 1936 are given in the above-mentioned Order, but it may be convenient here to set out the more important provisions.

WEIGHT CLASSES AND QUALITY GRADES OF WILTSHIRE CARCASSES.

Dead Weight Classes.	Quality Grades.		
	1	2	3
I Under c.1.0.14	Maximum back fat $1\frac{3}{16}$ in.	Maximum back fat $1\frac{7}{16}$ in.	All other pigs suitable for Wiltshire bacon.
II c.1.0.14 to c.1.2.7	Maximum shoulder fat 2 in.	Maximum shoulder fat $2\frac{1}{4}$ in.	
III c.1.2.8 to c.1.2.10			
IV c.1.2.11 to c.1.2.14	Maximum loin fat $1\frac{3}{16}$ in.	Maximum loin fat $1\frac{7}{16}$ in.	
V Over c.1.2.14			

If the measurement at the centre of the back qualifies for a particular grade and one of the other measurements also qualifies for that grade, the pig is accepted for the grade for which the back fat measurement qualifies. Any pig with a back fat measurement of less than $\frac{3}{4}$ inch is ineligible for Grade 1 or 2.

Pigs are ineligible for Grades 1, 2 or 3 if, after slaughter, they are certified by the Ministry's Veterinary Inspector as unsuitable for the manufacture of Wiltshire bacon for any of the following reasons:—

- (a) Not having firm white fat;
- (b) Showing fishy flavour or seedy cut;
- (c) Not castrated within 12 weeks after birth;
- (d) Being a rig pig, sow or pregnant pig;
- (e) Being a female pig that is not a maiden gilt;
- (f) Being an emaciated or "screw" pig.

SUPPLIES OF PIGS TO WILTSHIRE BACON FACTORIES.

The total number of pigs bought alive by Wiltshire curers in Northern Ireland in 1936 was approximately 137,000, and the deliveries each month, expressed as percentages of the total for the year, are given in the following table:—

Month.	Deliveries (percentage of total for year)
January	7.09
February	6.58
March	7.05
April	7.23
	27.95
May	7.08
June	7.89
July	9.83
August	7.86
	32.66
September	9.45
October	9.80
November	11.08
December	9.06
	39.39
Total	100.00

The figures show clearly that greater supplies of pigs were forthcoming in the last four months than in the first four months, the position being similar to that in the marketing of dead pigs (see table on page 10). It should, however, be mentioned that the fall in deliveries during August was due to one of the larger factories discontinuing purchases for a few weeks owing to labour troubles.

GRADING RESULTS.

The following table shows the percentages of pigs falling into the various grades in each month of 1936:—

Month.	Grade 1	Grade 2	Grade 3	Unsuitable	Total
January	37.82	42.05	19.21	0.92	100.00
February	43.00	40.02	16.33	0.65	100.00
March	38.80	47.01	19.56	0.63	100.00
April	35.58	44.63	19.22	0.57	100.00
May	35.67	44.47	19.35	0.51	100.00
June	34.45	47.03	18.10	0.42	100.00
July	33.12	46.34	20.29	0.25	100.00
August	33.54	45.18	20.95	0.33	100.00
September	37.20	45.65	16.47	0.48	100.00
October	41.27	40.31	17.49	0.93	100.00
November	41.54	40.48	17.37	0.61	100.00
December	41.88	41.02	16.09	1.01	100.00
Average for Year ...	37.93	43.16	18.30	0.61	100.00

It will be noticed that the proportion of Grade I carcasses rose in February (43%), then declined to a minimum (33.12%) in July—a variation of almost 10%—and thereafter rose steadily until the end of the year. In the case of Grade 2 the figures tended to increase in the summer and fall away in the later

part of the year, with a maximum variation of about 7%. Taking Grades 1 and 2 together, the combined figures did not fluctuate appreciably from month to month, being more or less steady at about 80%. The Grade 3 figures moved within narrow limits, being highest in August (20.95%) and lowest in December (16.09%). The number of unsuitable pigs represented little more than $\frac{1}{2}$ per cent. of the total.

Speaking generally, the grading results indicate that the quality of the pigs delivered in the summer months was inferior to that of the pigs marketed in the autumn and winter.

DELIVERIES ON DIRECT CONTRACTS.

The figures contained in the following tables have been compiled from copies of purchase and grading statements furnished to the Ministry by Wiltshire bacon curers in respect of pigs supplied by producers on direct contracts during 1936.

MONTHLY DELIVERIES ON DIRECT CONTRACTS.

Deliveries of live pigs by producers on direct contract during 1936 aggregated 42,032, or slightly over 30% of the total number of live pigs purchased by Wiltshire curers. The following table shows the deliveries on direct contracts each month expressed as percentages of the total direct contract deliveries for the year, and also the number of producers making such deliveries :—

Month	Deliveries for month (as percentage of total for year)	No. of producers delivering
	%	
January	4.35	87
February	4.77	105
March	6.74	133
April	7.16	124
May	6.51	137
June	8.28	140
July	8.83	151
August	8.90	162
September	10.62	179
October	10.79	178
November	13.47	171
December	9.58	165
Total	100.00%	—

It will be observed that the number of producers delivering pigs to Wiltshire curers in the latter months of the year was approximately double the number delivering in January, and that deliveries in the period September-December accounted for slightly over 44% of the total for the year.

DELIVERIES BY WEIGHT CLASSES.

The following table gives, by percentages, the numbers of direct contract pigs in each weight class for each month in 1936 :—

	I Under c.1.0.14	II c.1.0.14 to c.1.2.7	III c.1.2.8 to c.1.2.10	IV c.1.2.11 to c.1.2.14	V Over c.1.2.14	Total
	%	%	%	%	%	%
January ...	2.39	92.99	2.22	1.52	.88	100
February ...	1.90	93.65	1.75	1.60	1.10	100
March ...	2.26	93.18	1.41	1.31	1.84	100
April ...	1.33	95.27	1.20	1.50	.70	100
May ...	.88	94.81	1.97	1.43	.91	100
June ...	.98	95.30	1.52	1.21	.99	100
July ...	1.10	95.23	1.54	1.18	.95	100
August ...	.83	94.23	1.98	1.28	1.68	100
September ...	.70	94.39	1.82	1.79	1.30	100
October ...	.60	93.02	1.78	2.13	2.47	100
November ...	.32	92.39	2.60	2.84	1.85	100
December ...	1.05	93.69	1.86	1.54	1.86	100
Average for year ...	1.05	93.95	1.83	1.70	1.47	100

It will be seen that almost 94% of the total deliveries were in Weight Class II, the figures being highest in June (95.30%) and lowest in November (92.39%). While the percentages in the other four weight classes are relatively insignificant, it will be noted that the figures in Weight Classes III, IV, and V were highest towards the end of the year.

GRADING RESULTS.

As the bulk of the pigs delivered on direct contract were in Weight Class II (c.1.0.14 - c.1.2.7), no useful purpose would be served by giving an analysis of the grading results in each of the other four weight classes. The percentages of pigs between c.1.0.14 and c.1.2.7 (dead weight) falling into the various grades in each month of 1936 were as follows :—

Month	Grade 1	Grade 2	Grade 3	Unsuit- able	Total
	%	%	%	%	%
January ...	50.12	39.34	10.25	.29	100
February ...	51.87	37.85	10.07	.21	100
March ...	44.30	41.92	13.55	.23	100
April ...	39.36	44.24	16.36	.04	100
May ...	42.53	43.12	14.32	.03	100
June ...	39.27	46.75	13.86	.12	100
July ...	36.48	46.38	17.08	.06	100
August ...	34.96	47.45	17.42	.17	100
September ...	42.62	43.81	13.55	.02	100
October ...	44.80	40.80	14.24	.16	100
November ...	44.57	40.22	15.02	.19	100
December ...	45.47	41.25	13.07	.21	100
Average for year ...	42.50	42.95	14.41	.14	100

These results disclose that the percentage of Grade I pigs declined from February (51.87%) to a minimum of 34.96% in August, thereafter rising until the end of the year. The proportion of Grade 2 and Grade 3 pigs was greatest in August and lowest in February. Unsuitable pigs formed a negligible proportion of the total.

MONTHLY AVERAGE WEIGHTS BY GRADES.

In the following table are given the average weights of direct contract pigs in Weight Class II (c.1.0.14 - c.1.2.7) falling into each of the three prescribed grades during each month of 1936 :—

Month.			Grade 1.			Grade 2.			Grade 3.		
			c.	q.	lb.	c.	q.	lb.	c.	q.	lb.
January	...	...	1	1	11 $\frac{1}{2}$	1	1	15 $\frac{3}{4}$	1	1	16 $\frac{1}{2}$
February	...	...	1	1	10 $\frac{1}{2}$	1	1	16 $\frac{3}{4}$	1	1	20 $\frac{1}{4}$
March	...	...	1	1	10 $\frac{1}{2}$	1	1	15	1	1	17 $\frac{1}{2}$
April	...	...	1	1	12	1	1	18	1	1	21 $\frac{1}{4}$
May	...	...	1	1	10 $\frac{3}{4}$	1	1	15 $\frac{1}{2}$	1	1	20
June	...	...	1	1	11 $\frac{1}{2}$	1	1	15 $\frac{1}{2}$	1	1	20 $\frac{1}{2}$
July	...	...	1	1	11 $\frac{1}{2}$	1	1	15 $\frac{3}{4}$	1	1	18 $\frac{1}{2}$
August	...	...	1	1	11	1	1	16	1	1	20
September	...	...	1	1	11 $\frac{1}{4}$	1	1	18	1	1	20 $\frac{3}{4}$
October	...	...	1	1	13 $\frac{1}{4}$	1	1	19	1	1	21 $\frac{1}{4}$
November	...	...	1	1	14 $\frac{1}{4}$	1	1	20 $\frac{1}{4}$	1	1	24 $\frac{1}{4}$
December	...	...	1	1	12 $\frac{1}{2}$	1	1	19	1	1	22 $\frac{1}{4}$
Average for year	...	...	1	1	12	1	1	17 $\frac{1}{2}$	1	1	20 $\frac{3}{4}$

In each month the average weight of Grade I carcasses was lighter than that for Grade 2 carcasses, while Grade 3 carcasses averaged heavier than Grade 2 carcasses. It is also noteworthy that in the case of each grade the average weight was highest in November. The figures as a whole indicate that there is a close relationship between weight and grade of carcass at any particular time of the year.

MARKETING OF FRUIT ACT.

The efforts of the Ministry to place the Northern Ireland fruit industry on a sound basis have by no means been unattended by criticism. Replies to such criticism have repeatedly been made, but the opposition to the Ministry's efforts has not yet been silenced. Recently in the Press and in other ways, the Ministry's efforts have again been attacked, and it is, therefore, deemed desirable once more to set out the facts in regard to this much debated matter.

The criticisms of the Act and of its enforcement by the Ministry fall generally into two main divisions. In the first place, opponents of the measure contend that the Act was entirely unnecessary, that Northern Ireland always could produce apples, in particular, of a high standard of quality which could readily be disposed of on the British market. In the second place, it is held that even if certain compulsory measures might have been necessary to protect the apple-growing industry, the existing Act, and in particular its enforcement by the Ministry, are much too drastic, and that in consequence the industry is being strangled.

It is necessary, therefore, to examine these two main contentions, which if correct, would undoubtedly establish a case for the repeal of the existing legislation. Facts, however, clearly demonstrate that the contentions are erroneous.

In the first place, it is hardly necessary to point out that in recent years the marketing not only of fruit but of every type of agricultural produce, has undergone a complete transformation. Competition has grown, and only produce of a high standard of quality can find a market at anything like a remunerative price. In the case of Northern Ireland fruit, for which the British market is the natural outlet, consignments must compete with shipments from Overseas countries, which reach the British market in irreproachable condition consequent on the high standards of grading, packing, etc., enforced by the countries of origin. As an instance of the almost incredible lengths to which certain of our overseas competitors will go in order to maintain their hold on the British market, it may be mentioned that some time ago a commencement was made in the shipping to Great Britain from America of consignments of walnuts, in which each individual nut bore a quality stamp.

It is surely absurd to imagine for a moment that in the face of competition of this nature Northern Ireland fruit would continue to find in Great Britain a ready market, if the old haphazard methods were allowed to remain. It is a fact which cannot possibly be controverted that in the absence of satisfactory selection, grading and packing, the Northern Ireland export to Great

Britain must cease. The value of such a system of efficient grading has been amply demonstrated, not only in regard to fruit but in regard to other commodities. Take, for example, the case of eggs. Prior to the passing of the egg marketing legislation, which has now been in operation some dozen years, Northern Ireland eggs realised the lowest price on the British market; to-day, as the result of the placing on that market of our eggs in a satisfactory condition, Northern Ireland shippers receive the top market price.

Again, in the case of potatoes, Northern Ireland shipments have in times of over-production found a profitable sale on the Liverpool market when Lancashire growers were unable to sell their produce there. The marketing of fruit legislation operates similarly in years of abundant production. During the present shipping season, for instance, when our apples have had to face the severest competition consequent on an abundant British crop, and heavy shipments from overseas, no less than some 1,700 tons of apples were sent to Great Britain from Northern Ireland in the period September to December, 1936.

To those more moderate critics who admit the necessity for legislation, but condemn as too drastic the existing efforts to stabilise our fruit industry, reply is even easier.

In the first place, the standards imposed on Northern Ireland exports are on lines similar to those enforced by our Empire and foreign competitors. It is surely fatal to allege that Northern Ireland cannot produce fruit to comply with the existing standards. Such an admission would mean that our fruit would at the best have to be content with the lowest prices on the British market, and it would inevitably mean that in glut years the export to Great Britain of Northern Ireland fruit would be impossible.

The administration of the Act by the Ministry is not unsympathetic. The standards are elastic and, in fact, are periodically reviewed by the Ministry and its Fruit Advisory Committee, with a view to the making of any adjustments which the particular circumstances of any individual season may render necessary. As an example of this sympathetic administration it may be mentioned that in the Autumn of 1933, representations were made to the Ministry that a minimum size of $2\frac{1}{4}$ " was too high in view of the large proportion of small fruit present that season. In spite of the fact that it was not wholly convinced that the circumstances justified any revision of the standard, the Ministry in deference to the representations and to the views of its Advisory Committee decided that in that season the shipment of 2" apples might be allowed under permit, provided that the fruit conformed with the ordinary standard as to blemish. The fruit industry was duly informed as to this concession, but it is an interesting fact that not a single permit was applied for.

It is elementary to state that the operation of unduly severe legislation would result automatically in an unnatural diminution in exports. The following figures, as to the exports of Northern Ireland apples during the calendar years 1922-1935, show that no such diminution has taken place :—

1922	...	...	2,914 tons
1923	...	...	1,004 "
1924	...	...	300 "
1925	...	...	200 "
1926	...	...	216 "
1927	...	...	474 "
1928	...	...	896 "
1929	...	...	888 "
1930	...	...	5,544 "
1931	...	...	4,304 "
1932	...	...	4,974 "
1933	...	...	5,320 "
1934	...	...	1,911 "
1935	...	...	11,745 "

It will be seen that since the passing of the Act in the year 1931 our exports have been extremely satisfactory, the only year in which they fell considerably being that of 1934. That year was one of abundant supply in Great Britain, and it is beyond question that it was only the operation of the existing legislation which enabled so comparatively satisfactory an export as practically 2,000 tons to be made, and not some 300 to 900 tons as during the period 1924-1929. Again, as has already been mentioned, in the present season, when supplies on the British market are abundant our shipments are of reasonably satisfactory quantity.

It also is to be expected that the harassing of fruit growers which is alleged by the opponents of the legislation would have resulted in a serious fall in the acreage under apples in Northern Ireland. There has been no such fall as the following figures will show :—

1910	...	...	4,027 acres
1914	...	...	5,675 "
1930	...	...	7,450 "
*1931	...	...	7,347 "
1932	...	...	7,429 "
1933	...	...	7,488 "
1934	...	...	7,647 "
1935	...	...	7,475 "
1936	...	...	7,437 "

*The year the Act came into operation.

There are other factors which may render it increasingly difficult in future seasons to market Northern Ireland apples in Great Britain in satisfactory quantities and at remunerative prices. One of the most important of these factors is the growing demand in Great Britain for citrus fruits, such as

oranges—a demand which must inevitably react on the consumption of apples. Recent figures show that while the *per capita* consumption of apples in Great Britain is more or less stationary, the consumption of oranges has risen in a most remarkable degree. Factors such as these will help to convince any unbiased mind that the present time would be singularly inopportune for any relaxation of the Ministry's efforts to secure that Northern Ireland apples, of the highest quality only, are offered to the British consumer.

The operations of the Fruit Act in its endeavour to improve the quality of our apples must necessarily be slower than in the case of eggs. The egg is produced clean and of first quality, and it is only subsequent mishandling that causes deterioration. In the case of apples, on the other hand, no real progress can be made in increasing the quantity of good quality apples unless growers rigorously and faithfully adhere to the recommended spraying programme and store their apples under proper conditions.

HORSE BREEDING IN NORTHERN IRELAND.

EXHIBITION OF STALLIONS.

The Annual Exhibition of Stallions was held at the Show Grounds of the Royal Ulster Agricultural Society, Balmoral, Belfast, on Friday, the 12th February. Although the weather was inclement the attendance of the public was up to the average. There were assembled at the function 15 Thoroughbred and 47 Clydesdale stallions from all parts of Northern Ireland to compete for prizes amounting to £100 offered by the Society and also for the valuable premiums offered by the several County Committees of Agriculture under the Ministry's Horse Breeding Scheme.

In the Thoroughbred class the first prize-winner was "Blunderer", which was purchased a few years ago under the Ministry's Scheme by Mr. F. J. Hamilton, Banbridge. The second prize was won by "Disposition", the property of Mr. John Bamber, Ballymena, which also secured second place last year. The third place was obtained by "Oojah", which had been placed first in 1936. In the opinion of Mr. J. T. Clanchy, M.R.C.V.S., of Charleville, County Cork, who acted as Judge in this class, the stallions which obtained the first three places were really high-class horses, likely to produce good hunters. The winner of the fourth prize "Aesculapius", the property of Mr. C. H. Hamilton, Sion Mills, was a young horse just out of training, which the Judge was of opinion would be likely to grow into a high-class animal. This stallion had been imported this year under the Ministry's Scheme.

There were two classes for Clydesdales—those up to 4 years old and those over that age. In the younger class the winner of the first prize also secured the championship award for the breed—a large silver medal presented by the Clydesdale Horse Society. This stallion “Calder Castle”, is owned by Mr. John C. Drennan, Carse Hall, Limavady, and was placed fourth at last year’s Exhibition. The second place in the younger class was won by “Carrie’s Heir”, the property of Mr. Andrew L. Brown, Killaughey, Millisle. This animal secured first place in 1936.

In the class for Clydesdales over four years old the first prize was awarded to “Meath Park Balmoral”, the property of Mr. Hugh R. Morrison, Aghadowey, which had also obtained first place and the championship medal in 1936. This stallion was also runner-up for the championship. The second prize was awarded to “Balgray Marcellus”, the property of Mr. John Deans, Terrydremond, Limavady, which had been placed third in 1936. The Judge, Mr. Robert Park, Brunstane, Portobello, expressed the opinion that there was, at present, a demand for good draught horses and that the prices for such animals were remunerative. This fact should give encouragement to breeders.

Mr. James Milling acted as Judge for premiums in the Thoroughbred class and Mr. Hugh Dales acted in the same capacity in the Clydesdale classes. These Judges decided that all the stallions on view at the Exhibition were up to premium standard. The following is a complete list of the prize winners:—

Thoroughbreds :

Name of Stallion	Name and Address of Owner.
1. “Blunderer” ...	F. J. Hamilton, Shanaghan, Katesbridge.
2. “Disposition” ...	John Bamber, Farm Lodge, Ballymena.
3. “Oojah” ...	Thomas Lindsay, Derryboy, Crossgar.
4. “Aesculapius” ...	C. H. Hamilton, Ballyfatton House, Sion Mills.
5. “Charmant” ...	Joseph M’Clements, Garvey House, Aughnacloy.
6. “Golden Ball” ...	Thomas Lindsay, Derryboy, Crossgar.
7. “Vicot” ...	F. W. Hart, M.R.C.V.S., Enniskillen.

Clydesdales up to 4 years old :

Name of Stallion	Name and Address of Owner.
1. “Calder Castle” ...	John C. Drennan, Carse Hall, Limavady.
2. “Carrie’s Heir” ...	Andrew L. Brown, Killaughey, Millisle.
3. “Lennymore Keynote” ...	James A. Duncan, Lennymore, Crumlin.
4. “Cumberland Masterpiece” ...	J. K. M’Elderry, Ballymoney.

Clydesdales over 4 years old :

1. “Meath Park Balmoral” ...	H. R. Morrison, Aghadowey.
2. “Balgray Marcellus” ...	John Deans, Terrydremond, Limavady.
3. “Strathore Duncan” ...	Charles L. Millar, Dervock.
4. “Benevenagh” ...	Thomas Lindsay, Derryboy, Crossgar.

LICENSING OF STALLIONS.

Under the Horse Breeding Act the number of applications for licences in 1937 was 249 and inspections were carried out in the autumn of 1936 as the result of which 219 licences were granted and 28 refused. Inspections in two cases have not yet taken place. In 24 cases licences were refused on account of the defective conformation of the animals concerned; in 2 cases because of unsoundness and in the remaining 2 cases for both defects. It will be observed from the following table that the total number of licensed stallions has been increasing during the past few years. This is mainly due to the growing demand for Clydesdale sires the numbers of which have risen in four years from 88 to 119.

	Number of Licensed Stallions.			
	Clydesdales.	Thoroughbred	Other Breeds.	Total.
1934	88	35	63	186
1935	94	33	67	194
1936	106	30	65	201
1937	119	27	73	219

The number of licensed stallions of both light and heavy breeds shows a decided increase when compared with the figures for the year 1925. In that year there were 23 Thoroughbreds, 44 Clydesdales and 55 Other Breeds—a total of 122 while in 1937 the numbers respectively were 27, 119, 73—a total of 219; an increase of about 79%. With this increase in numbers it is interesting to note that the general standard of the stallions is regarded as being much higher than in 1925 and also that almost half of the total number of Thoroughbred and Clydesdale licensed sires are up to premium standard.

MARKETING SCHEMES.

AGRICULTURAL MARKETING (PIG INDUSTRY) ACT (N.I.), 1934 :—

PIG PRICES FOR MARCH, 1937.

The Pig Industry Council for Northern Ireland have announced the following prices for dead pigs sold by producers to curers in Northern Ireland in March, 1937.

Weight Class. (Dead Weight).	Grade 1.	Grade 2.	Grade 3.		Partly Black pigs.
Under c.1.0.21	58/9	58/9	58/9		58/9
c.1.0.21 to c.1.2.3 ..	69/9	66/9	63/9		5/-
Weight Class. (Dead Weight.)	Grade A.	Grade B.	Grade C.	U.L. or U.F.	below relevant Grade Price.
c.1.2.4 to c.1.2.14 ..	69/9	66/9	63/9	60/9	
c.1.2.15 to c.1.3.14 ..	69/9	66/9	63/9	60/9	
c.1.3.15 to c.2.0.0 ..	66/9	63/9	60/9	57/9	
c.2.0.1 to c.2.0.14 ..	60/9	57/9	54/9	51/9	

U.L.—Under Grade A. measurements. U.F.—Over Grade C. measurements.

Authorised cuts :—

- (a) Broken ham (dry, shank and/or shell bone break)—5% of the gross value of the carcase.
- (b) Broken ham (wet break)—12½% of the gross value of the carcase.
- (c) Shoulder-stuck carcase—3/- per shoulder affected.

The gross value of a carcase is the product of the dead weight and the relevant grade or other price per cwt.

Where portion of a pig carcase weighing not more than c.2.0.14 is condemned and the existence of disease could not reasonably have been known to the producer before despatch to the curer the appropriate grade price shall apply. If the carcase is wholly condemned on account of disease, the existence of which could not reasonably have been known to the producer before despatch to the curer, the relevant Grade 2 or Grade B price shall apply.

The foregoing prices do not apply in the case of (a) wholly black pigs, boars, rigs or stags, sucked sows, and pig carcasses weighing over c.2.0.14, and (b) pigs visibly diagnosable as diseased before despatch by the producer and subsequently condemned; emaciated or screw pigs; smelling pig carcasses with definite indications of putrefaction, and pig carcasses badly abused or damaged before being handed over by the producer to the curer.

PRICES FOR WILTSHIRE PIGS SOLD ON DIRECT CONTRACT.

In the case of pigs sold alive under direct contract to Wiltshire curers the prices per dead cwt. payable for pigs delivered in respect of the month of March, 1937, are as follows:—

Weight Class. (Dead Weight.)	Grade 1.	Grade 2.	Grade 3.	Unsuitable.
Under c.1.0.21 ..	62/9	62/9	62/9	60/9
c.1.0.21 to c.1.2.3 ..	75/9	72/9	69/9	62/9
c.1.2.4 to c.1.2.7 ..	Grade A. 70/9	Grade B. 67/9	Grade C. 64/9	U.L. or U.F. 61/9
Over c.1.2.7 ..	On the same basis as pigs sold dead.			

PRICES FOR LIVE PIGS SOLD TO THE PIGS MARKETING BOARD (NORTHERN IRELAND).

In the case of pigs sold alive to the Pigs Marketing Board during March, 1937, the prices, according to grade, are as follows:—

Live Weight.	Grade 1.	Grade II.	Grade III.	Unsuitable.
Under c.1.2.14 ..	44/—	44/—	44/—	41/9
c.1.2.14 to c.2.0.0 ..	56/9	54/6	52/3	47/—
c.2.0.1 to c.2.1.14 ..	52/3	50/—	47/9	45/6
c.2.1.15 to c.2.2.7 ..	50/—	47/9	45/6	43/3
c.2.2.8 to c.2.2.21 ..	45/6	43/3	41/—	38/9

These prices do not apply to live pigs over c.2.2.21, live pigs intended for breeding, live boars, live sucked sows, rigs or stags, injured or diseased pigs, live in-pig gilts, or live pigs sold (on contract registered with the Pig Industry Council) to curers in Northern Ireland. All other live pigs inside the weights c.1.2.0 to c.2.2.21 can be sold only to the Board.

AUTHORISED DEDUCTIONS.

Every pig (dead or alive) sold to a curer or to the Pigs Marketing Board is subject to a contribution at present amounting to 1/-.

In addition to this amount, a deduction of 4d. per pig may be made in the case of sales to curers to cover insurance, so that the producer will not suffer financial loss if the carcase is condemned as unfit for human consumption.

In the case of pigs sold to the Board, there is a deduction of 2/6d. per pig for marketing charges.

COST OF STANDARD PIG RATION.

The average retail cash price per cwt. of the standard ration, as calculated by the Ministry for the sixteen weeks' period ended 20th February, was 9/3.

The following is the ration upon which the feeding cost is based:—

Maize Meal	...	...	...	30%
Barley Meal	...	...	...	30%
Pollards (White)	...	...	...	20%
White Bran	...	...	...	10%
Meat Meal (60% Protein)	...	...	...	10%

GRADING STATISTICS.

Table showing the percentages of pig carcasses falling within the weight and grade classes indicated during January, 1937.

Under c.1.0.21.				c.1.0.21. to c.1.2.3.				Totals
Grade 1	Grade 2	Grade 3		Grade 1	Grade 2	Grade 3		
.96	.33	.17	.06	3.45	4.28	4.26	.03	13.54

Grade A.				Grade B.				Grade C.				
1	2	3	4	1	2	3	4	1	2	3	4	
8.91	21.25	4.11	.87	6.07	20.26	5.52	1.92	2.26	8.49	1.65	.58	81.89

UNGRADED CARCASSES.

Under Grade A measurements. U.L.	Over Grade C measurements. U.F.	Wholly condemned. U1.	Wholly black, injured or damaged. U2.	Overweights, boars, sows, etc. X.	Partly Black. Y.	
.04	2.42	.02	.69	1.35	.05	4.57
Total						100%

These figures have been calculated from the purchase and grading statements which the curers furnish to the Ministry.

The average price paid to producers for pig carcasses during the month of January works out at £5 9s. 11d.; the average weight at c.1.2.23.; and the average price of pork per cwt. at £3 4s. 3d.

The following table gives the percentage results of an analysis of the purchase and grading statements furnished by Wiltshire bacon curers in respect of live pigs delivered on direct contract by producers during the month of January, 1937.

Weight Class.	Grade 1.	Grade 2.	Grade 3.	Unsuitable	Total.
Under c.1.0.21 ...	.38	1.55	.06	.01	2.00
c.1.0.21 to c.1.2.3	41.32	34.34	10.80	.14	86.60
	Grade A.	Grade B.	Grade C.	U.L. or U.F.	
c.1.2.3 to c.1.2.7 ...	1.80	2.26	.75	.06	4.87
Over c.1.2.7 ...	1.94	3.25	1.20	.14	6.53
Totals ...	45.44	41.40	12.81	.35	100.

The average net price per cwt. in respect of these deliveries works out at £3 12s. 2d., after making allowance for insurance and contribution to the Pigs Marketing Board.

The average weight works out at c.1.1.18, the net average price per pig being £5 1s. 7d.

THE AGRICULTURAL MARKETING (REMOVAL OF PIGS) REGULATIONS (NORTHERN IRELAND) 1934.

PROSECUTION.

On Wednesday, the 10th March, 1937, at Moy Petty Sessions, a fine of £20 with £3 10s. 0d. costs was imposed upon a pig dealer who removed 14 pigs from Northern Ireland to Great Britain on the 28th November, 1936, in contravention of the above-mentioned Regulations.

THE CATTLE INDUSTRY (EMERGENCY PROVISIONS) ACTS, 1934 AND 1935.

The total payments made under the terms of the Acts to Northern Ireland owners up to and including 27th February, 1937, amounted to £641,048 16s 3d, and were in respect of 306,413 animals. During the week ended 27th February last, payments were made in respect of 3,097 head of cattle, including

2,301 steers, 724 heifers and 72 cow-heifers, of a total weight of 25,768 cwt., and a total realised value of £43,224 3s. 0d. The average price per head that week was £13 19s, and per cwt. live weight 33/7d. The latter figure compares with 32/- per cwt. live weight for the corresponding week of 1936. The average weight of each beast was 8 cwt. 1 qr. 8 lb., and the average amount of subsidy received was £2 1s. 7d.

NOTES AND MEMORANDA.

THE NEW TRADE AGREEMENT WITH CANADA.

A new Trade Agreement with Canada, superseding that reached at Ottawa in 1932, was signed on 23rd February, 1937. It will be terminable at any time on or after 20th August, 1940, subject to six months' notice having been given by either side. The new Agreement covers a period of exactly three years after the end of the five year term of the Ottawa Agreement.

Provisions of the new Agreement of special interest to the United Kingdom agricultural industry are summarised hereunder.

Canada will continue to enjoy free entry for produce that is at present admitted to the United Kingdom market free of duty, subject, however, to the United Kingdom Government reserving the right to impose duties on Canadian eggs, poultry, butter and cheese, and other milk products or to bring such produce within the scope of quantitative regulation. This reservation is subject to the provisos that existing margins of preference should be maintained, and that if quantitative regulation is introduced it should apply to imports from all sources—as, of course, it must if it is to be effective. Canadian bacon and hams will continue to have free entry. The Ottawa Agreement provided for free entry of Canadian bacon and hams of good quality up to a maximum of 2,500,000 cwt. per annum, a figure which was far in excess of imports from Canada in any recent year. Largely owing to the improvement in the United Kingdom bacon market, imports of Canadian bacon and hams increased from 324,000 cwt. in 1932 to 1,375,000 cwt. in 1936. These increased Canadian supplies have been accommodated in the past without seriously upsetting the general arrangements for regulating supplies to the United Kingdom market, but there has always been the possibility that imports from Canada would suddenly increase to such an extent as to endanger the successful operation of the Government's import regulation policy. Under the 1932 Agreement it was by no means clear that the United Kingdom Government had the right to impose quantitative regulation on imports of bacon and hams from Canada, but the new Agreement now safeguards the position, giving the United Kingdom Government the

right to regulate imports from Canada if they expand towards the $2\frac{1}{2}$ million cwt. maximum at an abnormal rate. This would take place, however, only after consultation with the Canadian Government.

Canadian cattle and beef also continue to have free entry. The United Kingdom Government have the power, however, to regulate imports from Canada if this appears to be essential for the effective working of a general marketing scheme in the United Kingdom.

Canada is also guaranteed the existing margins of preference on a number of products, including butter, cheese, apples, pears, eggs and condensed milk. Duties on imports of these products from foreign sources cannot, therefore, be reduced.

AGRICULTURAL NOTES.

SEASONAL FARM NOTES.

PLOUGHING.—As ploughing has been delayed considerably this season owing to unfavourable weather conditions, every opportunity should be taken to complete this work as soon as possible, so that the preparation of the ground for sowing and planting may be pushed forward when soil conditions are suitable. Turnips and pits of potatoes still in fields should be lifted now when opportunity offers so that the ground may be ploughed in good time.

POTATOES.—Where soil conditions are suitable, early varieties of potatoes may be planted. To obtain good crops which will be ready for digging early in the season, well-sprouted seed of a reliable early variety, and suitable manuring are essential.

The standard mixture of artificial manures for potatoes, namely, 1 cwt. sulphate of ammonia, 4 cwt. superphosphate and 1 cwt. muriate of potash, along with about 15 tons farmyard manure per statute acre, is also suitable for the production of early varieties and gives equally as good results as ready-made proprietary mixtures, which are usually more expensive than the standard mixture made up on the farm. Moreover, experiments have shown that the manures comprising the standard mixture can be mixed for a period up to three weeks prior to application without impairing the efficiency of the mixture in any way. Accordingly, the mixing of the manures can be undertaken during wet days when horse work on the land is not possible, and valuable time when the crop is being planted can thus be saved by having the mixture ready beforehand. In addition, any surplus of the mixture not required for early varieties can be used for application to crops of later varieties.

OATS.—When soil conditions permit of a dry seed-bed being obtained, the sowing of oats may be commenced towards the end of March. Early sowing is recommended as it encourages earlier ripening and facilitates harvesting.

A variety suitable for the particular soil conditions on the farm should be chosen, if best crops of oats are to be obtained. The results of oat variety experiments have shown that heavier yields of grain can be obtained from some of the newer varieties and strains than from the older varieties of the Potato type. Accordingly, where the land is suitable, it is a sound practice to sow seed of a heavier yielding variety, but before doing so, the advice of the Agricultural Instructor should be obtained to ensure that the land is suitable for the variety which it is intended to grow.

Seed oats should be dressed with a fungicide, such as "Ceresan", or "Agrosan G", prior to sowing to prevent the appearance of seed-borne diseases such as smut and leaf-stripe. The wet weather conditions preceding and during last harvest were conducive to the appearance and spread of these diseases and, as feared, many of the samples of seed are affected. An examination of 50 samples of home-grown oats, intended for use as seed this spring, has shown 45 of them to be infected with the fungus which causes leaf-stripe disease. The proportion of infected seed present in the various samples was found to vary greatly but, in some cases, as much as 27 per cent. of the total sample was affected.

This disease may be prevented by treating the seed, before sowing with one of the fungicides mentioned above, and, in view of the position disclosed by the examination of seed samples, it is of particular importance that seed be dressed this year. The treatment of the seed with these dusts not only prevents diseases but encourages thicker brairds and leads in many cases to increased yields being obtained.

As thicker brairds are usually produced from treated than from untreated seed sown at similar rates, the customary rate of seeding may be reduced by about one quarter when treated seed is being sown, as otherwise the crop is liable to grow too thickly and to remain short in the straw. Further information on the treating of grain to prevent seed-borne diseases is given on page 44.

In addition to sowing a good variety and to dressing the seed before sowing with a fungicide, proper manuring of oats is necessary on most soils to obtain best results. Suitable mixtures of artificial manures for oats are given on page 38 of this Report.

BARLEY.—The importance of growing barley, particularly for those engaged in pig-keeping, may again be emphasised. Barley is not a difficult crop to grow and the results of experiments carried out during the past two years have shown that satisfactory yields can be obtained on the average classes

of soils in Northern Ireland. Varieties, such as Spratt-Archer, Golden Archer and Old Common (Chevalier) have been found to be suitable for Northern Ireland conditions. As barley seed is difficult to obtain this year orders for supplies should be placed immediately. The crop should be sown early in the season, in March, if possible, on a well-prepared, fine dry seed-bed. Further information on the growing of barley is given on page 40. The Agricultural Instructor for the district will also visit and give advice on this matter.

WHEAT.—Where it is intended to grow spring wheat, the importance of choosing a suitable spring variety and of sowing the seed early may again be stressed. The choice of varieties of spring wheats is very limited, but unless seed of a suitable variety is sown, the crop may not ripen and, consequently, be a failure. For sowing during March, the varieties known as Red Marvel and Red Fife are suitable, while for later sowing, April Red Bearded is the only variety which can be relied on to produce a properly-ripened crop. A slightly heavier rate of seeding should be given in the case of spring wheat than for autumn-sown varieties.

It is advisable to dress the seed before sowing with "Ceresan" or "Agrosan G", at a similar rate as recommended for seed oats, to promote a vigorous braird and to prevent diseases.

Autumn-sown wheat will benefit from an application of a nitrogenous manure, such as sulphate of ammonia, nitro-chalk or nitrate of soda. The manure should be applied during the first week of April at a rate of about 1 cwt. per statute acre, and the braird harrowed lightly afterwards.

FLAX.—The attention of flaxgrowers is directed to Leaflet No. 1 entitled "Flax Seed, 1937", which gives, particulars of the trials carried out by the Ministry with some of the newer pure strain varieties, descriptive notes of these varieties, and information relating to prospective supplies of seed for sowing in 1937. Copies of this leaflet can be obtained free from the Ministry, on request. The average yields of scutched fibre obtained from the newer pure strain varieties included in the trials carried out were considerably higher than those obtained from the Dutch, Pernau or Riga commercial varieties and from the Dutch white flowering variety, known as Concurrent. Farmers intending to sow seed of any of the new pure strain varieties should order supplies without delay.

HAY.—Fields intended for hay should not be grazed after the end of March, otherwise the yields may be seriously reduced. Where it is intended to apply a dressing of artificial manures to such fields, this work should be carried out during March. The manuring of hay crops, particularly those from which seed is to be saved is a sound practice, as it promotes greater

yields and the production of better quality seed. A suitable mixture of artificial for this purpose is given on page 39. Any loose stones should be collected from fields intended for hay and the land then rolled so that trouble may be saved at mowing time.

SEEDS MIXTURES.—Supplies of grass and clover seeds should be ordered early. As the ultimate type of pasture produced depends to a great extent on the nature of the seeds mixture used in the sowing out of the land, the fullest consideration should be given to the selection and making up of seeds mixtures. Particulars of suitable seeds mixtures for Northern Ireland conditions are given in Leaflet No. 40 and on page 41 of this Report. The Instructor in Agriculture for the district will also advise regarding suitable mixtures for particular conditions.

If there is any doubt regarding the quality of the seeds intended to be purchased, samples should be obtained and sent to the Ministry's Seed Testing Station for testing. The testing of samples of seeds proposed to be sown is a valuable safeguard against obtaining inferior seeds. The charge made to farmers for the testing of seeds is only 3d. per sample. Envelopes for the despatch of samples can be obtained free, on application to the Secretary, or Agricultural Organiser, of the County Committee of Agriculture, or to the Ministry.

PASTURES.—Grassland which has been harrowed and manured during the winter months should be rolled when opportunity offers to level the ground and to consolidate the soil. Heavy land should not be rolled during damp weather as there is danger of hardening or "poaching" the soil, if this is done.

The production of early grass is of particular importance this year in view of the high cost of feeding stuffs, and where pastures have been dressed with phosphatic manures, early grass can be obtained by the application of about 1 cwt. sulphate of ammonia or nitro chalk per statute acre. One or other of these manures should be applied during the latter end of March or early in April.

Where phosphatic manures have not been applied during the winter months to pasture land in need of manuring, a dressing of Semsol or of superphosphate, applied at the rate of from 4 to 6 cwt. per statute acre, should be given without delay.

MANURIAL MIXTURES FOR FARM CROPS.

The following notes on suitable manurial mixtures for the different farm crops may be helpful at this season:—

OATS.—For oats on lea ground in poor condition, and on land following potatoes, the following mixture of artificial manures per statute acre is recommended for application a few days before or at time of sowing the seed :—

- 1 cwt. sulphate of ammonia,
- 2 cwt. superphosphate,
- 1 cwt. 30 per cent. potash salts.

For oats following wild white clover lea and on other land in good condition, an application of 2 cwt. superphosphate and from $\frac{1}{2}$ to 1 cwt. 30 per cent. potash salts per statute acre increases the yield and assists in preventing lodging.

WHEAT.—An application of 1 cwt. of a nitrogenous manure, such as sulphate of ammonia, nitro-chalk or nitrate of soda, per statute acre, should be applied during early April, and the braird harrowed lightly afterwards.

BARLEY.—When barley is grown after a potato or a turnip crop which has been well manured no additional fertilisers are necessary.

When grown after another cereal crop, especially if the land is not in high condition, a complete dressing of artificial manures should be applied. For this purpose an application of 1 cwt. sulphate of ammonia, from 2 to 3 cwt. superphosphate, and 1 cwt. 30 per cent. potash salts, per statute acre, is suitable.

FLAX.—From 1 to $1\frac{1}{2}$ cwt. muriate of potash per statute acre should be applied before sowing the seed. On land in poor condition, the addition of $\frac{1}{2}$ cwt. sulphate of ammonia per statute acre is beneficial.

POTATOES.—Where farmyard manure is available, a mixture of 1 cwt. sulphate of ammonia, 4 cwt. superphosphate, 1 cwt. muriate of potash, along with 15 tons farmyard manure per statute acre, is recommended. The artificials can be mixed and stored for from two to three weeks before use without impairing the efficiency of the mixture.

If farmyard manure is not available, the mixture of artificials stated should be applied at the rate of 9 cwt. per statute acre.

TURNIPS.—A dressing of from 10 to 15 tons of farmyard manure, along with from 4 to 6 cwt. superphosphate, Semsol, high grade basic slag, or Gafsa rock phosphate per statute acre.

Where farmyard manure is not available, a dressing of from 1 to $1\frac{1}{2}$ cwt. sulphate of ammonia, 6 cwt. superphosphate or other phosphatic manure, and

from 1 to 2 cwt. 30 per cent. potash salts per statute acre should be applied. If "finger and toe" disease is feared, basic slag should be used in preference to the other sources of phosphates.

MANGELS.—Liberal manuring of mangels is necessary to obtain best results. The following dressing per statute acre is recommended:—

20-25 tons farmyard manure.
2 cwt. sulphate of ammonia.
4 cwt. superphosphate.
4 cwt. Kainit.

In addition, 1 cwt. nitrate of soda per acre, applied as a top dressing after thinning, benefits the crop.

CABBAGE AND KALE.—For these crops the following dressing per statute acre should be given:—

20-25 tons farmyard manure.
2 cwt. sulphate of ammonia.
4 cwt. superphosphate.

HAY.—A suitable top dressing for application during March to land intended for hay for cutting or for seed sowing purposes is:—

1 cwt. sulphate of ammonia	} per statute acre.
2 cwt. superphosphate	
1 cwt. 30 per cent. potash salts	

PASTURES.—Where the slower acting phosphatic manures, such as high grade basic slag or Gafsa rock phosphate, have not been applied during the winter months to grassland, Semsol or superphosphate can be applied at the rate of from 4 to 6 cwt. per statute acre during the spring months. On the lighter classes of soils the application of 1 cwt. 30 per cent. potash salts per acre, in addition to the phosphatic manure, is beneficial.

For the production of early grass, 1 cwt. sulphate of ammonia or nitro-chalk per acre should be applied during the first week of April.

FERTILISERS AND FEEDING STUFFS ACT, 1926.

In view mainly of the phenomenal increase in the pig population of Northern Ireland the feeding stuffs trade in the Province has in recent years been greatly expanded. Not only have imports increased but there has also been a considerable expansion in home production throughout the country and many manufacturers, in a small way, of pig feeding meals, etc., have sprung up.

In view of these developments the Ministry has thought it necessary to ensure that, in connection with the feeding stuffs trade in particular, the provisions of the Fertilisers and Feeding Stuffs Act, 1926, are being fully complied with. With this object in view a somewhat extensive sampling campaign has been undertaken by the Ministry's Officers and every effort has been made to make manufacturers and merchants fully aware of their obligations.

During the course of the sampling campaign, certain cases came to light in which legal action was deemed to be necessary. In two cases, for instance, it was found that commodities described as Sharps contained substantial amounts of Rye. The Act makes it quite clear that the name Sharps can only be applied to a legitimate wheat offal and consequently if a commodity sold as Sharps actually contains an appreciable amount of rye product there is a contravention of the Act. Legal proceedings were accordingly instituted in the two cases to which reference has been made and in one of them a conviction was secured. Certain cases also came to light in which pig meals were found ready for sale and marked with figures indicating oil, albuminoid and fibre contents which consequent analysis proved to be incorrect to the prejudice of a purchaser. In two of these cases convictions were secured.

The Ministry is at all times ready to advise manufacturers and merchants as to their obligations under the Act and it is hoped that the action which has been taken will result in a more efficient effort by traders to comply with all the provisions of the legislation.

THE GROWING OF BARLEY.

The most suitable soils for barley growing are well drained, medium loams of a nature suitable for growing turnips or potatoes. In Northern Ireland, where there is a moderately high rainfall, light soils in good condition will also produce satisfactory crops of barley. Barley may also be grown on peaty soils, if well drained, but as the crop is liable to lodge on such soils, their use for barley growing is limited. The crop will not be a success if grown on wet, water-logged soils.

The main object when growing the crop for feeding is to get a high yielding variety which will ripen early. A strong-strawed variety is also desirable, as heavy crops of weak-strawed varieties are liable to lodge, and, accordingly, may be difficult to harvest. In experiments conducted last season by the Agricultural Instructors, three varieties, namely Spratt-Archer, Golden Archer and Old Common (Chevalier), were tested, and each of the varieties gave satisfactory yields. Spratt-Archer and Golden Archer are strong-strawed varieties and suitable for growing on the richer type of soils where

there is a danger of lodging occurring. Old Common produces longer and slenderer straw and is more suitable for growing on the lighter classes of soils.

While barley is usually grown after either turnips or potatoes, it may also be grown on lea land, or after another cereal crop following lea. Barley is shallow rooted and grows rapidly, but is unable to compete successfully with weeds; it is better, therefore, to avoid sowing barley after another cereal crop unless the land is very clean. It is a particularly suitable nurse crop for grasses and clovers, and this is another reason why it is an advantage to take a crop of barley after a root crop, since, in the usual rotation practised, the grass and clover seeds are sown with the cereal crop following the manured crop.

The manuring will depend mainly on soil conditions and the place in the rotation. A phosphatic manure is beneficial, as it helps root development in the early stages and hastens ripening. About 3 cwt. superphosphate per acre is a suitable dressing. Excessive nitrogenous manuring will likely result in a lodged crop and in delayed ripening. For soils of average fertility not more than 1 cwt. per acre of sulphate of ammonia should be applied. Potash is not generally required except on the lightest soils.

When barley is grown after a potato or a turnip crop, which has been well manured, there is little necessity to apply any additional fertilisers.

When grown after another cereal crop, especially if the land is not in high condition, a complete dressing of artificial manures should be applied. This dressing might be 1 cwt. sulphate of ammonia, from 2 to 3 cwt. superphosphate, and 1 cwt. 30 per cent. potash salts, per acre.

The necessary cultivations should be carried out to produce a fine surface tilth. It is important to have the seed bed fine on the surface and firm underneath. Firmness is particularly necessary if the crop is grown on lea ground.

The time for sowing will depend on the condition of the soil, but, generally speaking, the earlier the sowing the better will be the results, provided the soil is in a fit condition to receive the seed. The seed may be sown any time after the beginning of March, and the rate of seeding will depend on whether the seed is to be put in with a corn drill or sown broadcast. If the drill machine is used, from 12 to 14 stones of seed per acre will be sufficient, and if sown broadcast about 16 stones per acre will be necessary.

SEEDS MIXTURES FOR HAY AND PASTURE.

Very soon farmers will be considering the purchase of grass and clover seeds for sowing land down to temporary pasture. Unfortunately, in the past, the important matter of seeds mixtures was not given the attention it

deserved and the result of this failure to appreciate the absolute necessity to sow a suitable mixture of grasses and clovers, if a good pasture is to be obtained, is seen in the many poor, thin, weedy pastures which are prevalent throughout the country.

It is feared that many farmers regard temporary pasture as being of secondary consideration and are, therefore, concerned chiefly with the prospect of getting good crops of hay and, perhaps, of ryegrass seed. The object of getting good hay crops is not antagonistic to the production of good pastures, provided the principles underlying the obtaining of both are understood and adopted. It is far easier to produce a good crop of hay than to produce a good pasture, but the production of good pasture need not necessarily mean the failure to obtain a good crop of hay or of ryegrass seed.

Temporary pasture is a crop which occupies the ground for three, four, or more years. This being so, it should be the aim and object of every farmer, when laying land down to pasture, to do everything possible to ensure that this crop shall be a good one; besides, the quality of the pasture at the time the field is again ploughed for a rotation of crops will influence for good or bad the yields of these crops. This, in itself, should be sufficient justification for the little extra expense involved in the purchase of suitable mixtures of seeds. It is well-known, for example, that pastures containing wild white clover not only provide more and better grazing for stock than those which do not, but such fields, when ploughed up again, produce superior yields of crops, and do not normally require so much nitrogenous manure as those in which wild white clover was absent, or poorly represented. It is seen, therefore, that a suitable seeds mixture may, indirectly, save expense in the purchase of manures later.

Probably the most frequent mistake made in the composition of seeds mixtures is the omission of seeds of species of permanent grasses and clovers. The ryegrasses are not permanent—Italian Ryegrass is very short-lived—and while these produce good crops of hay, they cannot be depended on to form good pastures. Of the permanent species of grasses, cocksfoot, timothy, rough-stalked meadow grass and meadow fescue are the most useful, while of the clovers, wild white clover is truly permanent and red and alsike clovers short-lived. The permanent species of grasses do not form seed in the first year as do the ryegrasses and, accordingly, their inclusion in a mixture where it is proposed to save perennial ryegrass seed will not interfere with the purity of the sample of that seed. Where Italian ryegrass seed is saved, it is not usual to leave the land in pasture afterwards, but to plough it up again for another crop.

It is impossible to prescribe a mixture of seeds to suit all soils and conditions, but some general rules may be laid down.

- (1) Do not sow ryegrasses in excess.
- (2) Include an adequate proportion of permanent grasses, particularly cocksfoot.
- (3) Include wild white clover.
- (4) Do not sow "complicated" mixtures. Simple mixtures of carefully chosen strains of a few species are much to be preferred.
- (5) Do not sow mixtures of unknown composition.

The following mixtures should be regarded as types only, and will serve as a guide.

**FOR ONE YEAR'S HAY AND TWO OR MORE YEARS' GRAZING
(SEED NOT SAVED).**

Pounds per statute acre.

Species.				Average Soils.	Cold Clay Soils.	Peat Soils.	Poor Thin Soils.
<i>Perennial Ryegrass.</i>							
Irish or Scottish	...	...	...	12 to 15	18	14	20
<i>Italian Ryegrass.</i>							
Irish	...	...	...	5 to 7	—	5	—
<i>Cocksfoot.</i>							
Danish	...	...	...	8 to 10	6	5	10
<i>Timothy.</i>							
Canadian or Scottish	...	...	...	4 to 5	8	6	—
<i>Rough-Stalked Meadow Grass.</i>							
American	...	...	...	1	3	2	2
<i>Crested Dogstail.</i>							
Irish	...	...	...	—	—	3	3
<i>Red Clover.</i>							
English Broad	...	...	...	1	—	—	—
Montgomery, Cornish Marl or English late-flowering	...	...	...	1	—	—	1
<i>Alsike Clover.</i>							
Canadian	...	...	...	1	2	2	1
<i>Wild White Clover.</i>							
Kentish	...	...	...	1	1	1	1
Total (lb. per statute acre)	...	...	...	34 to 42	38	38	38

**FOR ONE YEARS' HAY AND TWO OR MORE YEARS' GRAZING ON
MEDIUM SOILS (PERENNIAL RYEGRASS SEED SAVED).**

1½ to 1½ bushels 35 to 42 lb. Perennial Ryegrass.
 8 " Cocksfoot.
 3 " Timothy.
 ½ " Broad Red Clover.
 ½ " Late-flowering Red Clover.
 1 " Wild White Clover.

Total 48 to 55 lb. per statute acre.

Red clover should be omitted altogether in districts where it tends to form too large a proportion of the herbage.

THE CONTROL OF LEAF STRIPE DISEASE OF OATS.

Leaf Stripe, Leaf Spot, or Seedling Blight of oats is caused by a microscopic fungus which is carried by the seed. When infected seed is sown the resultant plants may be affected in a variety of ways dependent upon the growth conditions provided by the season. The severest form of attack—Seedling Blight—results in the seedling being killed before or soon after its emergence from the soil. In another form the disease occurs as Leaf Stripe, in which case a brown striping of the first, second and third leaves is observed in the seedling plants. A considerable number of the plants attacked by Leaf Stripe succumb to the disease while in the seedling stage. Leaf Spot is the least serious form of the disease from the point of view of actually causing injury to the plant but it is by means of this phase that the fungus attacks the heads of the plants and thereby brings about infection of the seed.

Apart from the use of infected seed, the extent to which the disease occurs each season is closely related to the soil temperature. It is likely to do far more damage during a cold and backward spring and, if conditions do not change very soon, it would seem as if the present season will be likely to favour the disease in epidemic form. Severe damage may in some measure be prevented by deferring the sowing of the crop until comparatively late in the season but as late sown spring oats are more subject to attack by Frit Fly than those which are sown earlier, the postponement of sowing is not to be recommended.

Fortunately the disease may be prevented by disinfecting the seed before sowing with a fungicidal powder containing organic mercury as its active constituent. "Ceresan" and "Agrosan G." are fungicides of this type which have given satisfactory results under conditions of strict test. Two ounces per 3 stones of seed oats is the rate at which treatment is recommended. Although there are a variety of machines on the market suitable for the disinfection of seed oats it is probable that most farmers will not wish to purchase a machine for this particular purpose. In such cases the grain may be mixed with the disinfectant on a hard barn floor, the heap being turned with shovels to ensure even admixture of the powder. A better method for use when no suitable machine is available is to procure a clean empty 40 gallon barrel and fill it about two-thirds full with seed oats, adding the disinfectant as the seed is being emptied into the barrel. The mouth of the barrel is then covered with close-meshed sacking. After the sacking has been made secure, the barrel is lowered on its side and rolled about on a hard floor for about five minutes. This period is long enough to ensure thorough treatment of all the grain. A disused end-over-end churn is also very suitable in which to treat the grain.

Seed disinfection—

- (1) ensures vigorous early growth of the crop by preventing its becoming attacked by diseases in the early stages of development.
- (2) Procures, by ensuring such growth, earlier ripening and an increased yield of grain.
- (3) Secures the control of Smut diseases.

The following precautions should be observed—

- (1) The seed disinfectants recommended are poisonous and care should be taken against breathing in the dust while disinfection is being carried out. A damp handkerchief should be worn over the nose and mouth, if mixing is done in a close house and where a proper gas mask is not available.
- (2) Farm utensils used during the process should be thoroughly washed after use.
- (3) Treated grain must not be fed to livestock or poultry, nor should sacks in which treated grain is stored be used for meals, or for other foods for livestock.

SEASONAL LIVESTOCK NOTES.

Ox-WARBLE FLY.—By the time these notes appear the first dressing of cattle for the destruction of warble-fly maggots in accordance with the Ox-Warble Fly Order should have been applied. The second dressing must be applied during the period 12th to 19th April and subsequent dressings at intervals of 28 days until no further maggots appear.

The following preparations for the destruction of warble-fly maggots are recommended for use in 1937 :—“Polvo”, Cooper’s Warble Fly Powder, Harwood’s “Cowboy”, Osmond’s “Warblo”, Allen and Hanbury’s “Plough” Brand Warble Fly Powder, Young’s “Warblo” and Evans’ Warble Fly Powder. Supplies of any of these preparations can be obtained from most chemists and agricultural merchants.

Cattle-owners are strongly urged to dress all cattle infested with warbles at the times prescribed in the Order, as otherwise mature maggots may escape and perpetuate the pest. In view of the enormous loss which the pest causes to the cattle industry annually, its rapid extinction is a matter which should receive the earnest attention of all cattle-owners. This can only be achieved by strict compliance with the Order. Moreover, failure to destroy the maggots is likely to lead to a prosecution.

The application of the wash to cattle which are not tied sometimes presents difficulties, as it is troublesome to catch and hold the animals. Where a com-

paratively large number of such animals are to be treated, however, a pen into which they can be driven for treatment should be erected. A simple and satisfactory pen for this purpose can be made by erecting two rows of strong uprights and nailing scantlings on the pen side of each row. The pen should not be wider than will accommodate one beast at the exit end, but may be wider at the other end where, if necessary, it can be made in the form of a collecting paddock. Gates, or railings, fitted at both ends of the narrow portion will confine each beast while the dressing is being applied and each beast when treated can be released by opening the outer gate. The beasts can be dressed by two persons standing, one on each side of the pen rails. The erection of such a pen will obviate the necessity of catching the animals and holding them when the dressing is being applied.

Further information relating to the Ox Warble Fly Order is given in Circular No. 13, and particulars regarding the preparation and application of the washes are given in Leaflet No. 64.

CALVES.—The rearing of calves, which will be arriving in increasing numbers from now onwards, will occupy attention on many farms at this season. Good management and suitable feeding are important essentials to successful calf rearing. Strict attention to cleanliness and housing is very necessary, particularly during the first few week's of the calf's life, as it is during this period that many losses occur which could often be avoided. Houses in which calves are kept should be well-lighted, well-ventilated and provided with an impervious or water-tight floor which allows of easy cleaning. The house should be well cleaned and disinfected before the calf is placed in it. It is a good plan to paint the navel cord of all calves at birth with tincture of iodine as a precaution against white scour and other infections. Particulars regarding the control of White Scour are given in Leaflet No. 82. Buckets and other utensils used in calf feeding should be kept in a clean condition and during the period whole milk is being fed it should be given fresh immediately after milking.

For the first four weeks of a calf's life, whole milk should be fed, but after that time the whole milk may be replaced gradually with separated milk until, by the time the calf is about 6 weeks old, the milk ration consists entirely of separated or skim milk. During the transition stage from whole to separated milk and afterwards, the deficiency in fat resulting from the change to separated milk should be made good by giving the calf a little meal mixture composed of equal parts crushed oats, maize meal and bran, or even crushed oats alone, in the bucket after the feed of milk has been consumed. There is no necessity to feed expensive proprietary calf meals at this stage. These meals are often sold at prices far in excess of their feeding value, and their use adds unnecessary expense to the cost of rearing. In the separation of milk only

the butter fat is removed, and, accordingly, the separated milk contains the same food constituents as whole milk except as regards the butterfat which can be made good by feeding starchy foods such as those mentioned above. Further hints on calf-rearing are given in Leaflet No. 54.

DISHORNING OF CALVES.—The dishorning of all calves intended for sale as beef or stores is a matter which should not be overlooked. Dishorning by means of caustic potash before the calf is nine days old is simple to carry out and inexpensive. Full particulars are given in Leaflet No. 5.

BULLS.—Proper care and management of bulls kept for breeding are essential if satisfactory results are to be obtained. For successful breeding the animals must always be maintained in good, fit serviceable condition. This can be achieved by the use of suitable foods, a regular system of feeding, good grooming and ample exercise. These points are fully dealt with in Leaflet No. 61—*The Care and Management of Breeding Bulls*—and bull-owners, particularly those who have purchased a bull at recent Shows and Sales and who have not already kept one of these animals, should obtain a copy of this leaflet.

SHEEP.—Careful attention to the ewe flock during the lambing season will be well repaid by the better results obtained. The flock should be brought to a field convenient to the farmstead each evening and left there until morning. This practice will not only enable the flock to be inspected each evening and morning with the minimum of trouble but will also provide exercise for the ewes which is very necessary. Usually little, if any, assistance is required by lambing ewes but it is essential, if losses are to be kept down to the minimum, that the flock be inspected frequently so that assistance may be given when required. Before help is given, the hands of the attendant should be well washed with soap and warm water, to which a little disinfectant has been added and then lubricated with raw linseed oil.

Should a lamb at any time be found apparently lifeless, it should not be taken for granted that it is dead. It should, on the contrary, be placed in a vessel of warm water, and should there be any life in the lamb, the circulation will start all over the body at the same time, and in a little while it may be on its legs again.

Useful information on the care and management of sheep is given in Leaflets Nos. 47 and 63.

PIGS.—The value of barley meal in pig fattening rations has been stressed in these Notes from time to time. Lately, however, this foodstuff has been expensive and difficult to obtain in some districts. Accordingly, the problem of feeding an efficient substitute in pig mixtures arises. In experiments

carried out, it has been found that tapioca root flour when fed in meal mixtures for pig fattening purposes in similar proportions to barley meal gave satisfactory results and had a beneficial result on the quality of the bacon produced. If tapioca root flour can be obtained at cheaper rates than barley meal, therefore, it may be used to replace the latter in pig feeding mixtures.

SEASONAL GARDEN AND ORCHARD NOTES.

The next few weeks are to be the busiest period of the year in the garden, and to a large extent the success of the season's work will depend on the correct timing of the sowing of the seeds and the completion of the several operations at the proper times. If the ground has been treated during the winter as advised, the soil should break down readily when dry and be easily prepared for the seed beds.

VEGETABLES.—Seeds of such vegetables as peas, broad beans, parsley and white garden turnips should be sown in the position in which they are to mature. Small sowings of vegetables, such as peas, beans and turnips should be made at intervals during the spring so as to keep up a succession during the summer. The main supply of seed of the following vegetables should be sown towards the end of March or early in April in lines to be transplanted into their maturing positions later:—Cabbage (late variety such as Winningstadt); cauliflower; broccoli (all varieties); Savoy cabbage; borecole or kale, and leeks.

LETTUCE.—Small sowings of lettuce should be made each alternate week until the late summer to keep up a succession of this salad. To maintain a regular supply of lettuce throughout the season, care should be taken to sow varieties which will mature properly at the respective seasons of the year as some varieties that succeed well during the short days of spring and autumn are not suitable for growing during the longer days of summer. For growing for spring use, May Queen and Early Paris Market are suitable, and for summer supplies Trócadéro and Borough Wonder.

CUCUMBERS AND VEGETABLE MARROWS.—The seeds of cucumbers for growing in cold frames and of vegetable marrows for growing out of doors should be sown during March or early April in pots in a hot frame or greenhouse.

CELERY.—Celery should also be sown now in seed boxes in a warm frame or greenhouse. Plants growing in garden frames or glass houses should be kept as near the light as possible so as to grow them sturdy and short jointed.

MANURING OF CABBAGE.—Cabbage planted out last autumn, should be given three liberal dressings (up to 3 cwt. each per acre) of nitrate of soda during the next few weeks, allowing from 10 to 14 days between the dressings.

CAPSID BUGS.—Apple trees, which were attacked last season by capsid bugs, should be sprayed with an approved brand of mineral oil spray when the fruit buds show less than a quarter of an inch of growth of the scale leaves. These mineral oil sprays are liable to damage the buds, if applied when the young leaves have unfolded from the buds. Two gallons of the oil as purchased should be thoroughly mixed with an equal quantity of soft water and then added to 36 gallons of water. This makes 40 gallons of wash ready for application. Thorough spraying of the trees is essential, if satisfactory results are to be obtained. Particulars of the control of capsids are given in Leaflet No. 10.

APPLE SCAB.—Supplies of hydrated lime, bluestone and nicotine or nicotine sulphate, for summer spraying of apple trees should be ordered in good time so that there may be no delay when the time and suitable weather for spraying arrives. Retailers cannot be expected to anticipate the requirements of the grower unless informed in time. Details regarding the spraying of apple trees are given in Leaflet No. 33.

FLOWERS.—Seeds of hardy annuals, such as Sweet Pea, Clarkia, Godetia, Shirley Poppy, Nasturtium and most others may be sown out of doors early in April. Early flowering Chrysanthemums should also be planted out in suitably prepared ground early in April. Bush rose trees should be pruned during either the last week of March or the first week in April. To get large blooms the pruning should be severely done in the case of most varieties.

SEASONAL POULTRY-KEEPING NOTES.

HATCHING.—Hatching of eggs from the heavy breeds should be completed as soon as possible as pullets hatched from eggs set now will not be sufficiently mature to start laying early next autumn and, accordingly, are not likely to be profitable. Chickens of the light breeds, such as the White Leghorn which mature more rapidly than those of the heavy breeds, may be hatched during late March and early April with the expectation of the pullets laying next autumn and winter; hatching of eggs from such breeds may, therefore, be continued, if necessary.

BROODER SPACE FOR CHICKS.—The importance of providing ample space for chicks in brooders and other chicken rearing appliances may again be emphasised. Overcrowding retards development and growth and results in lack of stamina and vigour which are essential if birds, which can withstand the strain of heavy egg production, are to be produced. A house, which provides sufficient accommodation for chicks when hatched, will not be large enough when the birds reach the age of from six to eight weeks and unless this point is borne in mind, overcrowding will result and losses occur.

SEPARATION OF SEXES.—If the pullets are separated from the cockerel chicks as soon as the sexes can be determined, more accommodation will be provided for the pullets and the danger of overcrowding lessened. Besides, separation of the sexes in good time permits of the pullets being fed properly and of the cockerels being penned up for fattening purposes and fed accordingly. A suitable mash for fattening young cockerels is equal parts maize meal, pollard and Sussex ground oats, wet with separated milk or buttermilk. It should be remembered that the earlier the cockerels can be marketed, the better are the prices likely to be obtained.

MANAGEMENT OF GROWING PULLETS.—The pullets should be placed on free range and fed on a suitable growers' mash as recommended in Leaflet No. 20. The slatted floor type of house or the Sussex ark is excellent for accommodating pullets when they are put out on range. These types of houses provide efficient ventilation and can be changed readily to fresh ground.

FRESH GROUND FOR CHICKEN REARING.—The importance of rearing chickens on fresh, clean ground is not sufficiently realised by many poultry keepers. Ground on which poultry have been kept previously and which has become foul and dirty should no on account be used for chicken rearing purposes, or for the growing pullets when they are put out on range, as such ground is conducive to outbreaks of parasitic diseases such as gapes and coccidiosis. Particulars regarding the prevention and control of these diseases are given in Leaflets Nos. 52 and 31 respectively.

CULLING OF LAYING FLOCKS.—As prices for eggs have fallen, the laying flock should be examined carefully now, and all birds not in production and those which will not be required for breeding purposes next year, culled out for disposal. The birds which are to be discarded should be penned up and fed on wet mash for about a fortnight before being sold. Such birds should be sold off as soon as possible as better prices are likely to be obtained before the rush of spring chickens comes on to the market. Useful hints on culling are given in Leaflets No. 2, 3 and 29, and the Instructor in Poultry-keeping also will visit and advise regarding culling and the selection of suitable birds for retention as breeders. The birds which are to be retained should be fed and managed as directed in Leaflet No. 83.

TURKEYS.—Turkey hens should be well fed now to encourage egg production, as advised in the Notes in last month's Report. To avoid difficulty in locating nests and to prevent eggs being lost, nests should be provided in hedges or banks, where some natural cover is present. A couple of large boxes, laid on their sides and having the entrances well hidden by brushwood or whins, so that the turkeys can occupy them without being seen, will be suitable for this purpose. It is a mistake to delay setting turkey eggs until

the turkey becomes broody, as this period of storage of the eggs may be too long to obtain best hatching results. Moreover, the earlier the turkeys are hatched the better they will be for the Christmas Market. An ordinary broody hen will hatch turkey eggs quite satisfactorily, but not more than the number of eggs she can cover comfortably should be given to her to hatch, otherwise breakages may occur and a poor hatch be obtained. Useful information on the hatching and rearing of turkeys is given in Leaflet No. 37.

DUCKS.—Hatching of ducks for winter egg production should be carried out now. The Khaki-Campbell and the Indian Runner breeds are the most suitable for egg production purposes. Eggs from breeds, such as the Aylesbury and Pekin, or a cross between these breeds, should, if available, also be hatched now for the production of ducklings for table use. Duck eggs can be hatched satisfactorily in an incubator, but more moisture is required than for hen eggs.

ANNOUNCEMENTS AND REMINDERS.

GENERAL.

SCHOOLS.—New pupils will be admitted to the Ulster Dairy School, Cookstown, and to the North-West School, Strabane, for the session which begins on the 6th April next. Particulars regarding the courses of instruction provided at these Schools are given on page 54 of this Report, and also in the illustrated prospectuses which can be obtained free, on request from the Ministry. Application for admission to both Schools should be made by intending pupils immediately.

OX-WARBLE FLY.—The first dressing of warble-infested cattle must be completed by the 22nd March and the second dressing should be applied between the 12th and 19th April. Supplies of the recommended materials for the preparation of the dressings can be obtained from chemists and agricultural merchants. It is now illegal to neglect the dressing of infested cattle.

ANNUAL REPORTS OF COUNTY COMMITTEES OF AGRICULTURE.—Up-to-date information on agricultural, horticultural, poultry-keeping and dairying matters, in addition to the detailed results of all the experiments carried out by the Instructors in 1936, are given in the Annual Reports of County Committees of Agriculture. Supplies of these Reports are now available in most counties and copies can be obtained free from the Secretary, or Agricultural Organiser, Committee of Agriculture for the County, on request.

LEAFLET REVISION.—The latest information regarding the yields of different varieties of crops is given in summarised form in Leaflet No. 44 (revised March, 1937). In this leaflet the results of field variety trials conducted by the Agricultural Instructors in 1936 are reviewed. Supplies of the leaflet will be available soon.

The following leaflets have been revised recently and copies of the revised editions are now available:—

- No. 1. Flax Seed, 1937.
- „ 5. The Dishorning of Calves.
- „ 7. Potato Trials.
- „ 22. Leather-Jacket Grubs.
- „ 45. The Breeding and Rearing of Pigs.
- „ 52. Gapes in Chickens.
- „ 62. The Production of Timber on the Farm.
- „ 64. The Destruction of Warble Fly Maggots in Cattle.

SEEDS' MIXTURES.—The sowing of good quality grass and clover seeds in mixtures is the first essential to obtain good hay crops and pasture that will graze well. To ensure using good quality seeds in mixtures, samples should be sent to the Ministry's Seed Testing Division for testing. The cost of having seeds tested is only 3d. per sample and envelopes for the despatch of samples can be obtained from the Secretary, or Agricultural Organiser, of the County Committee of Agriculture, or from the Ministry, free on request.

DISHORNING OF CALVES.—All calves, intended for sale as beef or stores, should be dishorned before they are nine days old. Full particulars regarding dishorning by means of caustic potash are given in Leaflet No. 5.

SPRAYING OF APPLE TREES.—Apple trees should be sprayed to prevent apple scab disease. Timely and thorough spraying is an insurance against disease and an assurance of bigger and better crops of fruit.

COD-LIVER OIL FOR FEEDING PURPOSES.—Insist on obtaining a guarantee in respect of Vitamin content when purchasing cod-liver oil for feeding to poultry or other livestock. There are many inferior grades of cod-liver oil on the market which are not likely to give good results.

LECTURE AND CLASSES.

LECTURE.—A lecture entitled "The Cultivation of Vegetables" has been arranged by the County Londonderry Committee of Agriculture and will be given in Eglinton P.E. School on Friday, 19th March, at 7.30 p.m.

CLASSES.—The following classes, arranged by County Committees of Agriculture, are at present being held:—

County.	Day & Date of Commencement of Class.	Centre.	Time at which Class is held.	Subject.
Down	Wednesday, 10th Mar.	The Dairy, Maxwell Court, Comber.	2 to 4 p.m.	Butter-making.
Fermanagh	Wednesday, 3rd Mar.	"Greengables," Blaney	7 to 9 p.m.	Poultry-keeping.
Tyrone	Monday, 1st March	Corvanaghan P.E. School, Cookstown.	7 to 9 p.m.	do.

Each of the above classes will be continued for a period of at least three weeks.

VALUABLE SCHOLARSHIPS IN CREAMERY MANAGEMENT.

The Ministry will offer this year two valuable Scholarships to provide for a special course of technical training for young men desirous of obtaining the qualifications necessary for the post of Creamery Manager. In view of the provision in the Marketing of Dairy Produce Act (Northern Ireland) that Managers of Central and Auxiliary Creameries shall hold qualifications of a standard prescribed by the Ministry, this opportunity of obtaining the requisite course of training is of special importance to creamery students in Northern Ireland.

The course will extend over a period of about 18 months and will consist of two terms of technical training during the winters of 1937-38 and 1938-39, at the University College, Cork, and in the summer of 1938 one term of technical training at the College Experimental Creamery and one term at a Creamery in Northern Ireland approved by the Ministry. The Scholarships are each of the value of £98 6s. 0d., which enables students to pay their fees and retain a substantial balance for upkeep purposes.

Applicants must be between the ages of 18 and 30 on the 1st October, 1937, and must be resident, or the sons of residents, in Northern Ireland. Previous knowledge of creamery work is not essential, but a good standard of general education will be required.

Application forms and detailed particulars regarding the Scholarships can be obtained from the Secretary, Ministry of Agriculture, Stormont, Belfast. The latest date for the receipt of application forms is the 17th April, 1937.

TRAINING FOR GIRLS.

The next session at the North-West School, Strabane, and the Ulster Dairy School, Cookstown, will open on the 6th April, 1937.

The North-West School, with accommodation for 24 pupils provides a sound practical training in modern economical methods of dairying, poultry-keeping, and rural housewifery. Admission to this school is by Scholarship only, which defrays the cost of tuition, board and residence. These Scholarships are provided by the various County Committees of Agriculture. Application for a Scholarship should be made to the Secretary or Agricultural Organiser of the Committee of Agriculture for the county in which the applicant resides. Intending applicants for Scholarships should send in their applications immediately, as the number of Scholarships is limited, and they are awarded to eligible candidates in the order in which applications are received. There is no qualifying examination.

The Ulster Dairy School, which is situated at Loughry, Cookstown, County Tyrone, has accommodation for 50 pupils and provides the most up-to-date training in all matters connected with women's activities in farm life. Fees for the ordinary school course of three terms are three guineas per term.

Application for admission to the Ulster Dairy School should be made to the Secretary, Ministry of Agriculture, Stormont, and should be sent in at once, as equally suitable candidates are admitted in the order in which their applications are received.

School prospectuses, containing application forms, may be obtained from the Ministry, free of charge and post free.

FIFTEENTH EGG-LAYING TEST AT STORMONT.

RESULTS TO THE END OF THE FIRST TWENTY WEEKS.

The fifth period of four weeks ended on the 18th February, 1937. There was a slight increase in egg production, the average for all the birds during the period being 15.6 eggs per bird as compared with 15.1 for the previous period. The number of eggs laid during the period was 13,534. Of this number 12,555 or 92.7 per cent. were scoring eggs, i.e., 2 oz. each and over, whereas the percentage of scoring eggs in the previous period was 91.5 per cent.

The White Wyandottes in Section 1 and the birds in Section 4 (any other Pure Breed) have the highest average egg production for the period, the average being 16.6 eggs per bird in each section.

From the fact that during the year 1911, the total amount of the ...
 ... the ... of the ... in 1911. This represents a ... of 2 to 3 per ...
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The ... of the ... and during the ... the ... of the ...
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The following are the ... of the ... of the ... of the ...
 ... at the end of the year ...

TABLE 1. ... of the ... of the ...

No.	Age	Name and Address of Owner	Value of property at ...				Total
			Land	Buildings	Other	Value	
1	25	John J.	200	100	50	6	356
2	35	John J.	100	200	100	3	503
3	35	John J.	300	100	25	1	526
4	35	John J.	200	200	50	1	451

TABLE 2. ... of the ... of the ...

1	35	John J.	100	100	50	1	351
2	35	John J.	100	100	50	1	351
3	35	John J.	100	200	50	6	356

TABLE 3. ... of the ... of the ...

1	35	John J.	200	200	25	—	425
2	35	John J.	100	100	50	1	351
3	35	John J.	100	100	50	1	351
4	35	John J.	100	100	50	1	351

SECTION 4. ANY OTHER PURE BREED (OPEN). 16 pens.

Position.	No. of pen.	Name and Address of Owner.	No. of eggs laid during 20 weeks.				Score Value
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	86	Mr. R. Holmes, Moneycarrie, Killykerghan, Coleraine, Co. Londonderry. (Buff Rocks)	268	189	77	6	457
2	75	Mrs. M. Finlay, Langfield, Armoy, Co. Antrim. (Light Sussex.)	206	225	99	—	431
3	76	Mrs. H. Getty, Hillcrest, Newtownards Co. Down. (Light Sussex)	132	265	61	1	397

SECTION 5 (a). WHITE WYANDOTTES (STATION HOLDERS). 14 pens.

1	93	Mr. C. E. Crooke, The Rocks, Blaney, Enniskillen, Co. Fermanagh.	214	354	89	4	568
2	99	Mrs. M. Rodgers, Ballyginney, Dundrum, Co. Down.	404	158	52	2	562
3	91	Mr. W. A. Bell, Donaghane, Beragh, Co. Tyrone.	212	332	91	3	544
4	95	Miss M. M'Allister, Turnpike House, Backnamullagh, Dromore, Co. Down.	160	335	143	3	495

SECTION 5 (b). WHITE LEGHORNS (STATION HOLDERS). 14 pens.

1	105	Mrs. J. Brown, Gorsebank, Culcrum, Co. Antrim.	212	144	45	3	356
	112	Mrs. M. Noble, Roundpark House, Killycramph, Lisnaskea, Co. Fermanagh.	118	238	49	2	356
2	111	Mrs. J. Knox, Shanmullagh, Ederney, Co. Fermanagh.	175	160	7	1	335
3	110	Miss E. M. Irwin, Termeil House, Dungiven, Co. Londonderry.	110	178	86	2	288

SECTION 5 (c). RHODE ISLAND REDS (STATION HOLDERS). 20 pens.

Position	No. of pen.	Name and Address of Owner.	No. of eggs laid during 20 weeks.				Score value.
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	117	Mrs. R. J. Dunn, Ballyskeagh, Artigarvan, Co. Tyrone.	289	249	19	—	538
2	122	Mrs. W. McCallum, Aldohil House, Newtownstewart, Co. Tyrone.	153	310	60	2	463
3	127	Mrs. H. McMaster, Little Ballymena, Broughshane, Co. Antrim.	334	120	12	2	454
4	116	Miss S. M. Donaghy, Hilden, Ballymoney, Co. Antrim.	252	177	15	—	429

SECTION 6. POULTRY CLUBS AND YOUNG FARMERS' CLUBS. 12 pens.

Position.	No. of pen.	Club and Breed.	No. of eggs laid during 20 weeks.				Score Value
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	145	Saintfield Young Farmers' Club. Co. Down. (Rhode Island Red)s	208	213	53	1	421
2	137	Ballywalter Young Farmers' Club. Co. Down. (White Wyandottes)	231	164	79	4	395
3	141	Crumlin Poultry Club, Co. Antrim. (White Wyandottes)	140	253	147	14	393

"Score value" means the total of super-grade and first-grade eggs, i.e., the total of all eggs of 2 oz. and over in weight.

Two pens of White Wyandottes entered in the station-holders' section, have the distinction of holding first and second places in the entire test. The pen occupying first place is entered by Mr. C. E. Croke, The Rocks, Blaney, Enniskillen, Co. Fermanagh, and the average production of the six pullets during the 20 weeks the test has been in progress was 110.2 eggs per bird, while the average number of scoring eggs laid was 94.7 per bird. The average production of the six birds in the pen entered by Mrs. Rodgers, Ballyginney, Dundrum, Co. Down, which is second in the entire test, was 102.7 eggs per bird, and 93.7 scoring eggs.

The pen of Rhode Island Reds entered by Miss Irwin, Mount Irwin, Tynan, Co. Armagh, is third with an average per bird of 92.3 scoring eggs.

PRICES OF FEEDING STUFFS.

The following table shows the average retail prices per cwt. of Feeding Stuffs at 1st March, 1937, with comparative figures for the corresponding date in 1936.

	1937.				1936.			
	Price per cwt.	Protein equivalent	Price per unit of protein equivalent	Starch equivalent	Price per unit of starch equivalent	Protein equivalent	Price per unit of protein equivalent	Starch equivalent
STARCHY FOODS:								
Maize (whole)	s. 6 11	6.8	d. 20 4	81.5	s. 1 8	d. 14 3	s. 14 3	81.5
Maize Meal	7 3	6.8	21 4	81.5	1 9	15 1	15 1	81.5
Bran, Red	9 4½	10.0	18 9	45.3	4 2	10.0	14 1	45.3
Bran, White	10 3½	10.0	20 7	45.3	4 6	17 0	17 0	45.3
Pollard, Brown	9 4	11.0	17 0	71.2	2 7	11.0	13 6	71.2
Pollard, White	10 3½	11.0	18 9	71.2	2 11	13 6	15 0	71.2
Barley Meal	10 4½	6.2	33 6	69.7	3 0	6.2	21 11	69.7
Oats (Whole)	7 9½	7.6	20 6	60.0	2 7	7.6	17 4	60.0
Wheat (Whole)	10 4	9.6	21 6	72.0	2 10	9.6	—	72.0
PROTEIN FOODS:								
Linseed Cake, home-made	11 9½	25.0	9 5	71.8	3 3	25.0	8 1	71.8
Linseed Cake, foreign	11 1	25.0	8 10	71.8	3 1	25.0	7 4	71.8
Linseed Cake Meal	11 3½	25.0	9 0	72.8	3 1	35.0	7 5	72.8
Cotton Cake, decorticated	10 4½	35.0	5 11	71.2	2 11	35.0	5 0	71.2
Earth Nut Cake, decorticated	10 5	41.0	5 1	73.0	2 10	41.0	4 3	73.0
Soya Bean Meal (extracted)	11 0½	38.0	5 10	64.0	3 5	38.0	4 8	64.0
Fish Meal (60% protein)	16 4½	53.0	6 2	58.9	5 7	53.0	5 10	58.9
Meat and Bone Meal (40% protein)	10 10½	36.2	6 0	44.0	4 11	36.2	5 2	44.0
Meat and Bone Meal (60% protein)	15 3	54.9	5 7	61.3	5 0	54.9	5 0	61.3
OTHER FEEDING STUFFS:								
Linseed, whole	16 10½	19.0	17 9	119.2	2 10	19.0	17 10	119.2
Brewers' Grains (dried)	7 6	13.0	11 6	50.3	3 0	13.0	10 0	50.3
Palm Nut Cake	8 8½	17.0	10 3	70.2	2 6	17.0	9 3	70.2
Palm Nut Meal	8 9½	17.0	10 4	78.0	2 3	17.0	9 3	78.0
Potatoes	3 10	0.6	127 9	18.0	4 3	0.6	140 3	18.0
Oat Straw	2 4½	0.9	52 9	20.0	2 4½	0.9	53 3	20.0
Meadow Hay	2 7	4.6	11 3	37.0	1 5	4.6	11 1	37.0
Turnips	1 1	0.7	30 11	7.0	3 1	0.7	21 5	7.0

One of the objects of the foregoing table is to guide farmers in the economic purchase of feeding stuffs.

Ignoring their mineral content, the valuable constituents of any feeding stuff, whether home-grown or purchased, consist of:—

(1) Carbohydrates—a group of substances which include materials such as starch, sugar, etc. They supply heat or energy to the animal, and the surplus is stored by the animal as fat.

(2) Oil—which also provides heat or energy, the surplus being stored as fat. For this purpose oil is approximately $2\frac{1}{2}$ times as valuable as the carbohydrates, but its presence in the ration in excessive quantities may lower the digestibility of the ration and cause digestive troubles.

(3) Protein—The group of bodies termed protein or albuminoids contain nitrogen. Protein is the only ingredient of a feeding stuff which can produce flesh or muscle, and hence its special importance.

All animals require a certain amount of each of the above constituents, but the relative amounts depend upon the class of stock. Thus, for example, a two-year-old fattening bullock requires a relatively small amount of protein (flesh forming material). Its ration should consist mainly of foods rich in carbohydrates, i.e., fat producing substances. On the other hand, a dairy cow is producing milk, which is a substance rich in protein, and as the protein, that is flesh forming material in milk, can only be derived from the protein in the food, the ration for the dairy cow must contain considerably more protein than that for the fattening bullock.

There are very wide differences in the composition of feeding stuffs, both home grown and purchased. Some, such as oats and maize, are rich in carbohydrates, and, therefore, particularly valuable for fattening purposes, whilst others, such as decorticated cotton cake, earlnut cake and linseed cake, are rich in protein, and are chiefly valuable for their flesh and milk-producing properties.

In the following table the composition of some of the more commonly used feeding stuffs is shown:—

PERCENTAGE COMPOSITION.

	Water.	Protein.	Oil.	Carbohydrates.
Turnips (Swede)	88	1	0.2	9
Potatoes	75	2	0.1	21
Oat Straw	14	4	2	37
Meadow Hay	10	10	3	45
Pasture Grass	80	3.5	0.8	10
Cabbage	89	1.5	0.5	8
Fattening Foods :				
Oats	13	9	6	60
Maize Meal	12	10	4	70
Barley Meal	13	12	2	66
Flesh Forming Foods :				
Linseed Cake	11	30	10	35
Decorticated Cotton Cake	9	40	9	26

The farmer frequently asks what is the cheapest feeding stuff to buy. It is, however, often very difficult to give a direct answer. Much depends upon what the feeding stuff is required for, whether for fattening or milk production. Again, maize and oats are essentially fattening foods, whilst decorticated cotton cake is a flesh-forming food, and it would be just as futile to use the cost per ton to compare their values as it would be to use the cost per ton to compare the values of, say, sulphate of ammonia and superphosphate.

Foods of similar composition can, however, be compared, and it is possible for the enterprising farmer to effect considerable economies, not only in the use of home-grown feeding stuffs, but particularly in the purchase of concentrated feeding stuffs, by studying the market prices.

The starch equivalent figure is a measure of the energy, heat or fat producing value of the feeding stuff, and shows the number of pounds of starch which would be required to give the same heat or energy as 100 lb. of the feeding stuff. For example, the table on page 58 states that the starch equivalent of maize meal is $81\frac{1}{2}$, or, in other words, 100 lb. of maize meal will provide as much heat or energy as $81\frac{1}{2}$ lb. of pure starch.

The protein equivalent figure shows the number of pounds of digestible flesh or muscle producing material in 100 lb. of each of the feeding stuffs listed.

PRICES OF FERTILISERS.

The following table shows the ranges of retail cash prices of fertilisers per ton at 1st March, 1937:—

				Cost of unit of fertilising ingredient at average of range of prices shown.		
				Nitrogen.	Phos. Acid	Potash
Nitrogenous Manures						
Nitrate of Soda (15%N.)	£	s. d.	£ s. d.	10/11		
Sulphate of Ammonia (20.6%N.)	7	3 0	8 10 0	7/7½		
Nitro Chalk (15.5%N.)	7	10 0	8 15 0	10/5½		
Phosphatic Manures						
Superphosphate (16% S.P.A.)	3	10 0	4 0 0		4/8½	
Semsol (5% S.P.A. 15½% P.A.)	3	0 0	3 15 0		3/3½	
Basic Slag (18% P.A.)	3	15 0	4 0 0		4/3¾	
Gafsa Rock Phosphate (26% P.A.)	2	12 6	3 6 8		2/3½	
Potash Manures						
Kainit (14% P.)	3	0 0	4 5 0			5/2½
Potash Salts (20% P.)	4	0 0	5 0 0			4/6
Potash Salts (30% P.)	5	0 0	6 0 0			3/8
Muriate of Potash (50% P.)	8	0 0	9 0 0			3/4¾
Agricultural Salt	1	10 0	3 10 0			

Abbreviations:—N=Nitrogen. S.P.A.=Soluble Phosphoric Acid. P.A.=Phosphoric Acid P.=Potash.

The cost of the unit of fertilising ingredient is determined by dividing the price per ton at which the manure is offered by the percentage of the ingredient contained in the manure, and this method of determining values is the only sound basis on which two grades of a manure which supply the same fertilising ingredient can be compared. The price per ton is not a reliable guide as to whether or not a particular manure is good value for money. For example, in the table of prices it is seen that the average of the range of prices for 14% Kainit is £3 12s. 6d. per ton, and for 30% Potash Salts £5 10s. 0d. per ton, and it might be concluded that the Kainit was the better value for money. This is not so. The 30% Potash Salt contains more than twice as much Potash as the Kainit, and is, therefore, a cheaper source of potash when the price is even double that at which the Kainit is offered. The cost of a unit of potash in the 30% Potash Salts is seen to be only 3s. 8d., whereas the cost of a unit of potash in Kainit is 5s. 2½d. At the prices ruling for these manures, therefore, 30% Potash Salts is better value for money than Kainit. Similarly, it is seen that at the prices prevailing Gafsa Rock Phosphate is a cheaper source of Phosphoric Acid than Basic Slag, and that of the Nitrogenous manures Sulphate of Ammonia is the cheapest source of Nitrogen.

In connection with the costs of the units of Phosphoric Acid, as shown in the table on page 60, it should be noted that in the case of Superphosphate, the cost is that of a unit of Soluble Phosphoric Acid; whereas in the cases of Basic Slag and Gafsa Rock Phosphate, the figures represent the cost of a unit of insoluble phosphoric acid in each, and in the case of Semsol, the cost of the unit of fertilising ingredient is in respect of a mixture containing 15½% insoluble phosphoric acid and 5% soluble phosphoric acid. It would not, therefore, be correct to compare the unit price of the phosphoric acid in Superphosphate with those of the phosphoric acid in the other three.

PRICES OF FAT STOCK.

The following were the average prices per live cwt. of bullocks and heifers, sold at Belfast Auction Marts during each of the four weeks ended 23rd February, 1937:—

Week ended.		Bullocks.			Heifers.	
		s.	d.		s.	d.
2nd February	...	33	3	...	32	9
9th February	...	34	0	...	33	9
16th February	...	34	3	...	34	3
23rd February	...	35	3	...	35	0

PRICES OF AGRICULTURAL SEEDS.

The following table shows the ranges of the retail cash prices of seeds at
1st March, 1937, and at 1st March, 1936.

				1937	1936
Corn (Seed) :					
Wheat	(Irish grown)	...	... per cwt.	10/- to 10/6	7/6 to 8/-
"	(Imported)	...	...	16/-	8/- to 14/-
Oats	(Irish grown)	...	...	9/- to 11/-	6/- to 8/6
"	(Imported)	...	...	12/- to 15/-	8/- to 10/6
Barley	(Irish Grown)	...	...	12/- to 13/6	7/- to 9/-
"	(Imported)	...	...	14/- to 14/6	—
Root and Green Crops (Seed) :					
Turnips	(Swede)	...	... per lb.	1/6 to 3/-	1/- to 2/3
"	(Aberdeen)	...	...	1/- to 2/-	9d. to 1/6
Mangels		...	...	1/6 to 2/-	9d. to 1/9
Carrots		...	...	3/- to 4/6	2/6 to 5/6
Parsnips		...	...	1/- to 2/-	1/6 to 2/6
Clover Seeds :					
Broad Red		...	...	6d. to 8d.	} 9d. to 1/-
Late Flowering Red		...	...	1/3 to 2/3	
White		...	...	1/- to 1/6	9d. to 1/-
Wild White (Kentish)		...	...	7/- to 10/-	3/- to 5/-
Alsike		...	...	1/2 to 1/6	1/3 to 1/6
Flax Seed :					
Commerical Varieties, viz., Dutch, Pernau and Riga per bag of 13 to 14 st.				47/6	48/- to 50/-
Pure Line (Blue Flowering Varieties)		...	per cwt.	75/-	60/- to 75/-
White Flowering Concurrent	(Certified)	...	...	37/6 to 45/-	40/-
"	"	...	...	25/- to 30/-	—
Grass Seed :					
Irish Perennial : 28 lb. to bushel		...	per bushel	7/- to 8/3	5/6 to 7/6
Scots Perennial : 28 lb. to bushel		...	...	8/6 to 9/3	7/- to 8/3
Irish Italian : 22 lb. to bushel		...	...	4/6 to 6/-	5/- to 6/6
French Italian : 22 lb. to bushel		...	...	6/-	6/- to 7/-
Cocksfoot		...	per lb.	8d.	4½d. to 9d.
Meadow Fescue		...	...	9d. to 1/-	5½d. to 1/-
Timothy		...	...	6d. to 8d.	5d. to 8d.
Potatoes :					
May Queen		...	per cwt.	8/6 to 12/-	7/6 to 13/-
Sharps Express		...	...	6/8 to 12/-	12/- to 13/-
Di Vernon		...	...	8/6 to 12/-	7/6 to 12/-
British Queen		...	...	5/- to 8/-	4/- to 9/-
Arran Victory		...	...	4/- to 6/6	4/6 to 7/9
Kerr's Pink		...	...	4/- to 6/-	4/6 to 5/-
Up-to-Date		...	...	5/-	4/6 to 5/-

PRICES OF LIVE STOCK.

Average Prices of Live Stock at Fairs during the month of February, 1937.

Date	Fair	Calves (under 9 months)	Store Cattle	Fat Cattle (18 months and over)	Springers		Milch Cows	Fat Lambs (under 12 months old)	Fat Sheep (over 2 years old)	Young Pigs
					Cows	Heifers				
1	Strabane ...	Per head £ s.	Per cwt. Live weight.	Per cwt. Live wtgt.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.
2	Omagh ...	4 0	31/- to 32/6	32/-	14 0	13 10	12 0	—	*1 15	—
3	Londonderry ...	5 5	33/- to 34/-	32/6	15 5	13 10	13 0	—	—	—
3	Rathfriland ...	—	27/6 to 34/-	32/6	16 0	—	—	—	—	6
		5 9/9	26/- to 32/-	32/-	18 10	17 0	16 0	†- 19/-	†1 16/3	1 2/6
4	Ballymoney...	5 9/3	28/- to 34/3	31/6	14 15	13 7/6	13 5	—	†1 16/3	1 7
5	Moy ...	—	28/- to 33/-	31/-	16 2/6	13 7/6	16 2/6	—	—	—
8	Irvinestown ...	6 9	30/- to 34/-	30/-	15 0	12 10	12 5	*2 2/6	—	—
8	Limavady ...	—	27/6 to 34/6	33/-	16 0	—	—	*1 5	—	—
9	Dungiven ...	—	27/- to 34/-	32/6	16 0	—	—	—	—	—
10	Crossgar ...	—	30/- to 32/-	—	16 15	14 10	—	—	—	—
10	Enniskillen ...	4 12	27/- to 31/-	31/-	16 10	13 10	15 0	—	*2 0	—
12	Ballygawley ...	—	27/6 to 35/-	31/-	15 0	—	15 0	—	—	—
15	Camlough ...	4 10	23/- to 30/-	32/-	16 10	15 0	13 10	*1 15	—	—
17	Lisnaskea ...	4 6/9	26/- to 31/6	31/-	15 0	14 5	13 10	—	—	—
18	Ballynahinch ...	—	30/- to 32/-	—	17 5	15 0	14 10	—	*1 14	—
20	Portadown ...	4 3/3	29/- to 33/-	32/-	16 0	14 0	16 0	—	—	—
22	Fintona ...	5 3	33/- to 35/-	31/-	17 0	13 10	14 0	*2 0	*1 17/6	—
22	Moneymore ...	4 17/9	29/6 to 38/6	30/6	18 0	16 10	15 5	—	—	—
25	Antrim ...	—	29/6 to 33/-	32/6	19 0	15 7/6	—	—	—	—
26	Castlederg ...	4 12/6	34/- to 36/-	33/-	16 5	—	—	—	*1 15	—
27	Ballymena ...	6 15/9	24/- to 36/-	—	21 0	21 5	20 10	—	—	—

* Downs and Cross.

† Long Wools.

† Mountain.

IMPORTS AND EXPORTS.

Table showing the Imports and Exports through Northern Ireland ports of certain Agricultural Products during the month ended 31st January, 1937, with comparative figures for the corresponding period in 1936.

(These figures are supplied through the courtesy of the Ministry of Commerce and are subject to revision.

COMMODITY	IMPORTS.		EXPORTS.	
	Month ended 31st January		Month ended 31st January	
	1937	1936	1937	1936
Bacon cwt.	668	2,473	32,327	40,745
Hams cwt.	324	586	10,616	14,905
Pork cwt.	1	—	2,487	2,777
Butter cwt.	13,593	17,509	165	234
Eggs gt. hds.	6,017	9,091	93,399	111,491
Oat Products (inc. Oatmeal) cwt.	1,647	3,430	11,749	14,685
Potatoes tons	14	11	*25,761	*29,369
Poultry cwt.	25	67	36,766	56,136
Grass Seeds .. cwt.	1,272	1,479	57,761	46,675

*These figures represent the quantities of potatoes inspected for shipment by the Ministry.

There were no imports of oats direct from abroad during January, 1937, and January, 1936.

Table showing the numbers of Live Stock (1) exposed for sale, and (2) sold at 19 fairs in Northern Ireland during the months of February, 1936, January, 1937, and February, 1937.

Description of Live Stock.	February, 1936.		January, 1937.		February, 1937.	
	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.
Store Cattle ...	7,516	5,342	4,762	3,370	5,624	4,320
Fat Cattle ...	1,770	1,631	1,749	1,526	1,781	1,576
Dairy Cattle ...	1,039	727	840	656	1,045	773
Sheep ...	254	185	186	154	301	199
Lambs ...	219	204	213	147	123	78
Young Pigs ...	3,291	2,648	3,440	2,350	2,731	2,065

Although supplies of store cattle at fairs held during February showed an increase on the month, supplies continued small for the time of the year, and good quality stock were limited in number. Trade continued steady, and strong stores showing condition were in keen demand at dearer rates. Good quality six-quarter-old black polly bullocks and nice coloured heifers also met a strong enquiry, and owners benefited from the advance in prices. Fat cattle were in moderately good supply, and business in this end also showed an improvement, prices being a turn higher on the month. Supplies of dairy cattle were about average for the time of the year, but quality stock were in limited number. The best young cows were easily disposed of at fully late rates, but for other sorts trade was dull and prices cheaper. Sheep offerings remained small, and business, although confined to local butchers' requirements, was good, and fat sheep and a few fat lambs were bought up at higher prices. Some breeding sheep also made satisfactory rates. The number of young pigs was much smaller than a month ago, but supplies were sufficient for the demand which was quieter than of late on account of the high cost of feeding stuffs. Trade generally, however, was satisfactory, and recent prices were almost maintained. Sows for breeding also were in duller demand at easier rates.

18th March, 1937.

This report will be sent free monthly as issued on application being made to the Secretary, Ministry of Agriculture, Stormont, Belfast.

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MINISTRY OF AGRICULTURE. List of Leaflets and other Publications.

LEAFLETS.

- | | |
|--|---|
| <p>No. 1. Flax Seed, 1937.
 " 2. Improvement of Farm Poultry.
 " 3. Feeding for Egg Production.
 " 4. Marketing of Eggs.
 " 5. The Dishorning of Calves.
 " 6. The Packing of Apples in Standard Boxes.
 " 7. Potato Trials.
 " 8. Seed Testing for Farmers.
 " 9. The Renovation of Orchards.
 " 10. Fruit Tree Pests—Cecidid Bugs.
 " 11. Fruit Tree Pests—Aphides and Apple Sucker.
 " 12. Fruit Tree Pests—Caterpillars.
 " 13. Contagious Abortion in Cattle.
 " 14. Cheese-making on the Farm.
 " 15. Suitable Varieties of Fruit.
 " 16. The Feeding of Dairy Cows.
 " 17. Home Bottling of Fruits and Vegetables.
 " 18. Marketing of Dead Poultry.
 " 19. How to Feed Linseed.
 " 20. The Hatching and Rearing of Chickens.
 " 21. The Uses and Advantages of Portable Poultry Houses.
 " 22. Leather-Jacket Grubs.
 " 23. The Handling and Care of Wool.
 " 24. Fluke in Sheep.
 " 25. The Rearing and Management of Young Horses.
 " 26. Ordnance Survey Maps for Farmers.
 " 27. How to Keep Eggs Clean.
 " 28. The Construction of a Laying House for Poultry.
 " 29. The Selection and Breeding of Laying Hens.
 " 30. Coccidiosis in Poultry.
 " 31. Roup of Poultry (Fowl Pox).
 " 32. Spraying Calendar for Apple Orchards.
 " 33. The Pruning of Apple Trees.
 " 34. The Fattening of Pigs.
 " 35. Advantages of Milk Recording.
 " 36. The Raising and Fattening of Turkeys.
 " 37. The Destruction of Charlock.
 " 38. The Production of Clean Milk.
 " 39. The Laying Down and Management of Temporary Pastures.
 " 40. Blackleg, Blackquarter or Quarterill.
 " 41. The Purchase of Balanced Rations for Dairy Cows.
 " 42. Tuberculosis in Poultry.</p> | <p>No. 44. Results of Crop Experiments, 1935.
 " 45. The Breeding and Rearing of Pigs.
 " 46. Hints for Winter Egg Production.
 " 47. The Care and Management of Sheep.
 " 48. American Gooseberry Mildew.
 " 49. Potato Blight.
 " 50. Butter-making on the Farm.
 " 51. Gapes in Chickens.
 " 52. The Breeding and Rearing of Calves.
 " 53. Destruction of Ragwort or Benweed.
 " 54. Identification of Egg Supplies.
 " 55. How to have Eggs of First Quality.
 " 56. How the Fertilisers and Feeding Stuffs Act benefits the Farmer.
 " 57. Bacillary White Diarrhoea (Pullorum Disease).
 " 58. Advantages of Winter Agricultural Classes.
 " 59. The Care and Management of Breeding Bulls.
 " 60. The Production of Timber on the Farm.
 " 61. Sheep—Castration, Docking, Foot-Rot and Care of Feet.
 " 62. The Destruction of Warble Fly Maggots in Cattle.
 " 63. The Packing of Apples in Barrels.
 " 64. Seed Testing Facilities for Traders.
 " 65. The Cultivation of Vegetables.
 " 66. The Cultivation of Strawberries.
 " 67. The Construction of Piggeries.
 " 68. Ringworm.
 " 69. The Cultivation of Raspberries.
 " 70. Tree Planting for Shelter and Ornament.
 " 71. The Propagation and Maintenance of Healthy Stocks of Potatoes.
 " 72. New Pure Strains of Flax.
 " 73. Pig Production and the Pigs Marketing Scheme.
 " 74. Acarine (Isle of Wight) Disease of Bees.
 " 75. Licensing of Milk Producers and Distributors.
 " 76. Graded Milk.
 " 77. The Picking and Storing of Apples.
 " 78. Hoose or Husk in Farm Stock.
 " 79. The Construction of Cow Houses.
 " 80. White Scour in Calves.
 " 81. The Care, Management and Feeding of the Poultry Breeding Stock.</p> |
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Any of the above leaflets may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

CIRCULARS.

- No. 1. Phosphatic Fertilisers.
 " 5. Why Pay a Tax on the Horns of Cattle?
 " 8. Basic Slag.
 " 9. Smut in Oats.
 " 10. Purchase of Fertilisers and Feeding Stuffs.
 " 11. Fertilisers and Feeding Stuffs Act—General Summary.
 " 12. The Treatment of Liver Fluke.
 " 13. The ox-Warble Fly.
 " 306. Fertilisers and Feeding Stuffs Act, 1926—Revision of Regulations.

MISCELLANEOUS PUBLICATIONS.

- Store Cattle.
 Reports on Egg-Laying Tests.
 Crop Insurance.
 List of Growers of Certified Crops of Immune Varieties of Potatoes.
 List of Growers of Certified Crops of Non-Immune Varieties of Potatoes.
 The Ministry's Monthly Report.
 Register of Premium Stallions.
 Guide to the Live Stock Breeding Act (Northern Ireland), 1922.
 Guide to the Marketing of Fruit Act (Northern Ireland), 1932.

Any of the above publications may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

The following publications can be obtained from His Majesty's Stationery Office, 80 Chichester Street, Belfast, at the prices stated:—

- (1) The Annual Report of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
- (2) Annual Report upon the Agricultural Statistics of Northern Ireland. Price 2/- net.
- (3) The Journal of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
- (4) The Agricultural Output of Northern Ireland, 1925. Price 2/6 net.